The Lumleian Lectures
ON
HEART INFLAMMATION IN CHILDREN.

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LECTURE II.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—In my first lecture I attempted some classification of rheumatic heart inflammation in childhood, dwelling especially on that acute form of carditis which, while it is almost peculiar to that time of life, is at once so insidious and so dangerous as to demand special attention. Reference was made to the great diversity in its earlier symptoms, the trivial character of its arthritis, and the absence sometimes of any distinct evidence of a rheumatic origin. Further, the prominence of nervous phenomena was alluded to, and the suddenness of cardiac failure was contrasted with the very slight anatomical changes found in some instances after death. I will now shortly consider some points of physical diagnosis already incidentally alluded to in reference to pericarditis and proceed thence to the more controverted question of the earliest recognisable signs of endocarditis in children.

In most instances of pericarditis, if not in all, there is slight displacement outwards of the heart's apex. The sign, however, is of some delicacy, even when the heart is of normal size and the patient is seen early; moreover, it needs for its appreciation accurate notions of the natural position of the apex at various ages. Much labour has been expended on the determination of this point. In his observations upon the locality of the apex beat in 300 healthy children between a month and fifteen years of age Stärck[1] found that in many cases the point was difficult to determine. Up to the fourth year it is, in his estimation, just outside the nipple line, from five to six it is in the nipple line, and after six inside that line. As to the cardiac area of superficial dulness, he found it diminished with the years both as to its upper and left boundary, falling by the width of a rib—i.e., the fourth left rib—between the sixth and the twelfth year. Stärck recognises three types of superficial cardiac dulness—corresponding with a year old, six years old, and twelve years old. It is sufficient for our present purpose to notice the second and third types. The deep dulness at both six and twelve years is practically the same. The superficial dulness is, as here represented, lower at twelve years by the width of a rib and having its left border on the parasternal line. My friend Dr. Garrod has been good enough to investigate this subject of the superficial cardiac area among the out-patients at the Children's Hospital, and the life-size tracings here produced are the result. They accord generally with Stärck's conclusions. "The observed peculiarities are explained," in Garrod's belief, "by a more horizontal or recumbent position of the heart in children than in adults, the heart becoming more erect as the child grows." A point included in these tracings concerns the amount of heart displacement in different positions.

It was observed in a patient of my own aged eight that the displacement to the left following the child's being placed upon that side was maintained for some minutes after the dorsal position had been resumed. Drs. Ringer and Phear made a similar observation in a recently published paper.[2] They noted further a similar delay in the heart's movement following the first disturbance from the back to the left side. Dr. Walsham has made observations not only as to the movements of the heart right and left, but also in the inverted position upside down. In the case of four boys aged five, seven, eight, and nine he found that no alteration whatever occurred in the cardiac area when they were placed heads downward. One of these, the boy aged eight, as I myself witnessed at Dr. Walsham's invitation, remained in that position for five minutes, and at the end of that time the cardiac area (that which had been carefully marked out beforehand) was in no way altered. These observations upon posture changes may have a value in the determination of the very difficult question of old pericardial adhesion.

In cases of acute pericarditis the variations in the area of cardiac dulness are but slight. There will be a little widening and a little heightening of this area, neither of these changes being of long duration. The period occupied by the three stages of effusion—its advance, acme, and decline—is included within a fortnight. The time of decline is apt to be longest, and the acme (or period of greatest effusion) the shortest. Sibson, who made a minute study of this point, found that in as many as thirty-nine of forty-four cases the period of acme (or greatest area) lasted but a day. In chronic pericarditis these periods may be long exceeded; but even in the most prolonged the change in area of cardiac dulness will be found to vary from day to day—now increasing, now decreasing, now increasing again.

Where effusion is considerable there is, in addition to that which percussion makes out, what the eye measures—namely, widening of the left intercostal spaces from the second rib downwards, with accompanying elevation of these spaces. An appearance of raised flatness is thus produced, contrasting strongly with the natural contour of ribs and spaces of the right chest. It may seem at first thought a lengthy and difficult task to map out from day to day by percussion the several fluctuations of pericardial effusion, but it is not so for two reasons: one, that the patient is a child, small, thin, and easily handled, and with the heart apparent; the other, that with certain precautions, to be presently mentioned, the upper boundary of cardiac dulness taken alone indicates sufficiently by its rise or fall the daily course of the effusion.

It need not be said that the limits of the heart's superficial dulness—upper, right, and left—are not equally defined. The right border is the most abrupt in slight enlargement, owing to the interference of the sternum. The left and the upper borders of superficial dulness are bounded by narrow regions of lessened dulness due to the interposition of thin edges of lung overlying the left ventricle in the one case and the upper portion of the heart and great vessels in the other. In extreme heart enlargement the left border is carried so far out as to be lost, so to speak, in the left side, which is itself dull owing to the contiguous left ventricle. The upper margin of cardiac dulness is best estimated by percussing gradually from the clavicle downwards; and the right and left borders by first seeking the apex place or the "centre" of dulness and thence percussing outwards in both directions.

With the percussion signs and signs that the eye notes there occur others, not less important, which the palms and fingers perceive; but these latter vary with the amount of effusion and consequent displacement of the heart.

How, then, is the heart affected in position as the result of fluid effusion? The question has been variously answered. Sibson, in his later work, lays much stress on the fact that the heart is displaced upwards into the higher and narrower portion of the chest. He thus explains the elevation of apex (which he was the first to point out) and the close apposition of the heart to the anterior chest wall, as well as the vibrations and grating friction. "When the effusion lessens," he adds, "the thrill disappears, the creak vanishes, friction sound softens." In his first article on pericarditis, however, in 1849[3] Sibson clearly described the effect of distension of the sac as causing the fluid to rise so as to cover the heart in front, separating successively the ventricles, right auricle, and vessels from the pericardium. This earlier view of Sibson is that which is now generally accepted. Thus Bristowe[4] asserts that the heart in effusion is "necessarily carried backwards and consequently away from the anterior thoracic wall"; while Balfour[5] and others believe that the rise of the apex is only apparent. "What we feel," says Balfour, "is not the apex, but the part of the ventricle lying above it, and appearing to rise as more and more of the heart is separated from the anterior wall with which the base of the heart always remains in contact." Latham and Walshe are in substantial agreement with Sibson, believing that with extensive effusion the heart is pushed upwards to the fourth, third, and second interspaces, the rub, thrill, and vibration being all correspondingly raised."

There is yet another view of the conduct of the heart in effusion, adopted by those who question the fact of the heart being pushed either upwards or backwards. It is that which maintains that the heart in such cases remains where

[1] Archiv für Kinderheilkunde, 1888.
[2] THE LANCET, Feb. 10th, 1894.
[3] Vol. iii., p. 20. [4] Bristowe's Medicine, p. 406.
[5] Balfour's Diseases of the Heart, p. 323.

it was. Rotch[6] seeks to establish this conclusion partly by experiment and more cogently by the argument in which Balfour preceded him—namely, that the visible impulse "need not be that of the apex, but of the tumultuous right ventricle above it."

Henoch, in his well-known "Lectures on Children," does not allude to this particular subject, deeming it perhaps unsuited to his method. In my own belief these apparently conflicting views just quoted are, in fact, reconcilable. They all express the truth in various circumstances. The heart may be moved either forwards, upwards, or backwards in effusion, or it may remain where it was; and of the factors that determine its conduct, pericardial adhesion, here or there, temporary or permanent, is the chief. I have repeatedly in fatal cases of effusion inserted needles just before the post-mortem examination into the proper apex place and above the fifth right costal cartilage close to the sternum without being able to detect upon opening the chest any dislocation of the heart. The validity of such experiments may be questioned; but there are clinical facts to show that the early pushing forward of the heart, with consequent pericardial friction, increasing in area and intensity, although it may be the rule, is not without exception. The fluid may cover the heart from the first, and no friction be audible until it has been absorbed. This was so in the case of a child nine years old, who during the time of the acute symptoms showed the physical signs of pericardial effusion merely. The first sound of friction concurred with an abatement of the worst symptoms and persisted almost to convalescence.

The diagrams before you are illustrations of the several ways in which the normal area of cardiac dulness is deformed and the apex displaced in effusion. In most cases the utmost degree of effusion is soon reached. It continues in that stage but for a short time, often less than a day, receding in many cases only to return, so that, without corresponding change in the general symptoms, the alternate ebb and flow of pericardial effusion may be watched over a considerable period, the upper margin of cardiac dulness, higher or lower, sufficing, as I have said, as the daily gauge. In the more lengthened attacks the pericardial sac is observed to widen disproportionately to its heightening, and it is in such cases, when newly observed, that much difficulty may arise in distinguishing between a dilated heart and a fluid-laden pericardium. It is, in fact, not by the particular shape or extent of cardiac dulness at a given time, nor yet by any constant distinction in the character of the heart sounds in the two cases, that this differential diagnosis is safely made; it is by the daily measurement of the changing area of dulness. It has been well shown by Rotch and others that cardiac dulness, transgressing the right margin of the sternum and occupying the fifth right interspace, makes fluid effusion probable, and paracentesis has been made with success in that region, as, for example, by Dr. Dickinson in a case of purulent effusion.[7] But the sign is not infallible, even when this extension of dulness to the right is a recent event.

Thus in a case of carditis to which I shall allude (Daisy B——), the area of cardiac dulness remaining unaltered, it was suggested that the pericardium might be adherent. Presently pericardial rubbing became audible, and with this the right area of cardiac dulness moved to the fifth right space. The child died with the usual symptoms of prostration; yet there was no fluid whatever to account for the sudden widening of cardiac area. That change was due to rapid dilatation of the right side of the heart at the time of its sudden failure. The pericardial surfaces were adherent everywhere with no interposing fluid whatever. In this instance the fact that the area of cardiac dulness, though widened to the right, was not heightened, might suggest dilatation rather than effusion; but there are cases like that quoted at length in the last lecture, where rapid pericardial adhesion seems to arrest the ascent of the upper margin of dulness.

In another case of markedly dilated heart, of such width as to be clearly perceptible in the fifth right space, extensive friction rub arose some days after admission; yet there was no accompanying increase of cardiac area. Post mortem a notable amount of fluid was found surrounding the heart; it lay round it, so to speak, in such manner as to make discovery during life impossible. Such is often the manner of cardiac empyema, where pus surrounding the heart makes no perceptible change as to its apparent size or shape. This condition is rarely recognised until post-mortem examination discloses it. Of the difficulty of founding prognoses upon the observation of the fluctuations in the area of cardiac dulness a good illustration is afforded by two children, one of whom (Thomas B——) died, while the other (Henry D——) recovered. In the fatal case the worst symptoms concurred with an increasing area of dulness; in the non-fatal, but very severe and prolonged, case the boy was at his worst, passing motions unconsciously, with a rapid decrease of the same area. Other diagrams on the table illustrate the same point, showing examples where the area of dulness decreased for some days before death. It is very rarely that the pericardial effusion of rheumatic children becomes so extreme as to need paracentesis. In the whole of the cases I am now reviewing there was no such occurrence.

While the signs of rheumatic heart inflammation are in full progress as regards the pericardium, the endocardium, as we know, is suffering also; but just as pericarditis does not show at the first either by increased cardiac dulness or audible rubbing, so endocarditis at its commencement does not impair the efficiency of the valves so as to prevent reflex—in other words, the obvious and familiar physical signs we are in the habit of associating with endocarditis refer less to it than to its consequences. The early observers were not ignorant of the fact that mitral reflux might occur late. Latham especially, through regarding the advent of such murmur as of itself and without qualification indicating endocarditis in cases of rheumatism, was fully persuaded that its first onset might precede this particular sign. His were the days of enthusiasm for physical signs, when a single one was held sufficient to indicate a particular diseased state. Mitral murmur in the course of rheumatism was for Latham the signal for bringing into play the whole array of antiphlogistic remedies, just as the subcrepitant râle was warrant enough for a like treatment of lung disease. But no one was more alive than he to the significance of certain cardiac signs antecedent to murmur, and he often saw reason for commencing his remedies before this sound appeared. "There may as yet," said he in 1845, nearly fifty years ago, "be no endocardial murmur, but the systolic sound may be unnaturally prolonged and unnaturally rough. I hardly ever knew a case in which unnatural length and roughness of sound, such as a practised ear could well discriminate, has not become an unequivocal murmur in twenty-four hours."[8] How often have I anticipated that the murmur would be formed to-morrow. It is almost as certain a sign as murmur itself. I no sooner perceive it than without waiting for the murmur I begin the treatment of endocarditis at once. A period prior to any audible murmur may, in Latham's opinion, cover all the essential morbid processes of the disease, and even outlast the time when it can be successfully treated. And accordingly, with a precision and accuracy not exceeded in the present day, Latham[9] proceeds to describe three distinct relations of mitral murmur in respect of endocarditis: (1) in some murmur is coincident in time with the very commencement of the inflammation—the natural sound is changed into the genuine murmur without notice or preface; (2) in some (and most frequently) murmur does not arise until inflammation has somewhat advanced; and (3) in some (and least frequently) murmur does not arise until inflammation is on the decline or has ceased. Since the days of Latham and Watson the earliest physical indications of endocarditis have been much discussed, and the general conclusion has been reached that no single sign, perhaps no combination of signs, indicates with certainty the very beginning of endocarditis, and if this be said of a first attack how much greater is the difficulty with subsequent attacks. Time only serves for one or two quotations in support of this statement. Walshe[10] would base the diagnosis of endocarditis on "febrile action, cardiac uneasiness and endocardial murmur occurring in a person presumably free from prior cardiac disease." At the same time, and together with this reservation, he alludes to the possible occurrence of dynamic murmurs, and admits that "endocarditis may exist without murmur." Rosenstein believes that the diagnosis of endocarditis is purely arbitrary. Dr. Bristowe frankly admits that the symptoms of endocarditis are "not striking," and that "it is by the development" of the valve lesion that we mainly assume its presence and trace its progress.

Professor Potain is more confident. Admitting the great diversity of opinion as to early endocardial signs, he

[6] Keatley's Cyclopædia, p. 885.
[7] Transactions of the Medical and Chirurgical Society, 1889, p. 50.
[8] Latham's Works, ii, p. 69, New Sydenham Society.
[9] Ibid., pp. 72, 73.
[10] Diseases of Lungs and Heart, p. 615, second edition.

considers all those hitherto put forth as absolutely unreliable. What *is* reliable, according to this authority, is the change which takes place in the quality (timbre) or tone of the normal sounds. This change, expressed in a word, is progressive obscurity of sound. Sometimes the first sound is obscured, sometimes the second, sometimes both. Its gradations may be thus expressed: "slightly muffled," "muffled," "obscure," "very obscure," "inaudible." In a certain proportion he admits that the changes were very slight, and considerable experience and a practised ear were needed for their detection, nor "was it possible to form an opinion except by comparison of the day before" He goes on to describe the several morbid changes productive of these altered sounds, but inasmuch as death very rarely occurs at this early stage we may safely assume that the description is no more than conjecture. My own experience, as I shall presently relate, does not coincide with that of Potain, except as regards the changeful character of the heart sounds and rhythm and the value of successive observations from day to day. Inaudible first sound is familiar to all of us in connexion with enteric fever, and was first pointed out by Stokes. It is met with, no doubt, in some cases of rheumatic endocarditis; but, according to my observation, occurs late rather than early. In a recent instance, however, I noticed partial and very temporary effacement of the first sound preceding by some days the signs of pericarditis. The patient was a girl aged thirteen, admitted with a third attack of acute rheumatism, with old mitral murmur. Fourteen days after admission (when the temperature had been normal for ten days, the pulse steady at 68, and the joints free from pain) the first sound became very indistinct. A week later the temperature rose without any return of the joint pain, and four days later, when the first sound had regained all its distinctness, there was increased fever, and some soft friction could be heard for two days, the patient making a rapid recovery. Here Potain's sign was not distantly connected with carditis, but with an interval. Dr. Barr considers a "dull first sound with delayed radial pulse" amongst the earliest signs of endocarditis.

Midway between such frank expression of imperfect knowledge as I have just quoted and the more confident statements of the French professor we may place the elaborate researches of Sibson in the same field. His are "tentative conclusions," as his editor, Dr. Ord, remarks. "Conclusions such as a man would arrange before him to aid his final judgment, a multitude of facts in which the reader finds himself lost, and is conscious that on many points he is not put in possession of clearly stated inferences."[11] For such reasons it is difficult to estimate the precise value of Sibson's work and not always easy even to follow him; yet, without doubt, we owe much to this indefatigable worker. His vivid description of the aspect and demeanour of commencing endocarditis; the minute and accurate account of the several declensions from the normal sounds, from such signs as are to be regarded as "threatening" endocarditis, to those which in their further development make the actual presence of that inflammation probable, thus precisely defining the degrees and the limits of knowledge in this respect. And we may notice, by the way, and with gratitude, Sibson's very careful and guarded—it may be, too guarded—use of the word "presystolic," a term which, I believe, except in one place he hardly allows himself to use without qualification. On the other hand, it may seem to some that he gives no very clear account of the physical signs of mitral narrowing; that he exaggerates the frequency of tricuspid murmur, mistaking it sometimes for the true presystolic "grave and even vibrating," as he puts it, "beginning with an accent or shock"; and that he is somewhat inconsistent in placing tricuspid murmur among the signs indicative of the very commencement of endocarditis, and also as coinciding "in almost all the cases with great general illness." These may be shallow criticisms, and in any case we are to remember, as Dr. Ord remarks, that "the hand of the artist was stayed while he was still engaged in fashioning his work—that we have but the clay model for a work in marble." On the threshold of this subject of the early signs of endocarditis, so exhaustively discussed by Sibson, it is well to remember what he so well urged—namely, the fact that both from the structure and action of the mitral valve, as well as from the situation of the inflammatory product, as seen after death, it is apparent that blood reflux is not an early but a late result of endocarditis. "The border of contact in systolic closure is not a mere edge, but a surface or line of adaptation made up of small bead-like cells that dovetail into each other along the margins of the flaps. Endocarditis affects not the very edge or rim of the flaps, but the line of contact just within the edge. When the mitral valve is inflamed it is this border of contact that shows a frill of small bead-like granulations quite insufficient at first to prevent accurate and complete closure. Presently, however, each of these little prominences gets capped with fibrin, and it is by this addition, sooner or later, that adequate adaptation of the valve flaps becomes impossible and reflux begins."[12] This early condition of endocarditis is seen best, not in rheumatism, but in chorea. For in rheumatism death does not occur without further morbid changes, which chorea as such does not share. In fatal cases of chorea, apart from rheumatism, we see endocarditis in its purity, so to speak, and it is well known that the bead-like granulations often found in chorea, chiefly in connexion with the mitral valves, have sometimes sufficed to produce mitral murmur and sometimes not. But there yet remain some special circumstances of childhood which help to explain why at that age the earlier physical signs of endocarditis should so often escape notice. In the first place, the early joint pains seem so trivial that the child is seldom brought to hospital on account of them. In the second place, a large proportion of the patients have had previous attacks of rheumatism, which have so changed the heart as to confuse conclusions. It is rare to meet with a child at an early period of its first rheumatic attack; so it happens that the physical signs we get to associate with endocarditis belong properly, not to its early and active stage, but to its results and consequences.

Having dealt thus far with the views of well-known authorities as to the earliest recognisable signs of endocarditis, and shown, by their want of accord, the difficulty of the subject, I will endeavour to point out and to illustrate from patients of my own (1) the manner in which endocarditis comes about in the case of rheumatic children, and (2) the mode or the modes of its development. The earliest physical indications of endocarditis in children acquire significance only when associated with rheumatism. Tumultuous, quickened and uneven heart action; sounds that are changeful from day to day, especially the first; sounds reduplicated, especially the second at and above the apex (*not* at the base); a temporary tricuspid murmur; marked accent commencing the first sound, whether mitral or tricuspid: these are amongst the commonest of such sounds. But it is not in all cases that endocarditis signs are thus gradually developed. Sometimes mitral reflux arises very early, without previous notice or warning. Thus a child aged three years and eight months (Rose E——) was admitted on Oct. 4th, 1893, for some general œdema, but without albuminuria, cardiac murmur, history of scarlet fever, sore-throat, or rheumatism. In two days the œdema disappeared and the child seemed to be well. Ten days later, however—i.e., on the 16th—some desquamation was found over the legs, and the child was thereupon removed from the general ward, the heart sound at the time being perfectly natural. On Nov. 1st—that is, fourteen days after the examination of the heart—the child was again admitted with swollen and painful joints of five days' duration, the temperature being 102°. And now there was well-marked blowing murmur at the mitral which was conducted into the axilla, and accompanied at first by an occasional "squeak." In this instance it seems almost certain that a period of no more than five days sufficed to develop a blowing mitral murmur having all the characteristics of regurgitation. In the usual course the progress is more gradual and of the kind I have just mentioned. As just now in reference to the post-mortem appearances, so also in reference to the clinical signs we may again invoke the example of chorea. It is generally admitted nowadays that the cardiac physical signs of chorea—or at least the later and more pronounced of them—are due to endocarditis. These signs are in the order of occurrence, unevenness of action, slight and inconstant murmur, murmur that is constant, and murmur both constant and conducted; but never thrill (rheumatism being absent), never accentuated beginning of the first sound, never any sound that its most passionate advocate could mistake for presystolic. There can be little question that these signs concur with an endocarditis briefer and having a much more limited history than the rheumatic. They

[11] Sibson's Works, vol. i., p. 12.

[12] Ibid., vol. iv., p. 234.

represent the utmost of choreic endocarditis, but only an early stage of the endocarditis that is rheumatic. But at this moment of time their physical indications are identical.

Endocarditis, there is reason to believe, occurs together with the joint pains, and not (as it seems to occur in the case of children) at some indefinite period afterwards; but the first heart signs are obscure and ambiguous, while the joint pains are slight and brief. And so it habitually happens, as I believe, that the gradual development of endocarditis signs in the first rheumatic attack—the passage from "the threatened" to "the probable," and from "the probable" to "the certain" signs of that inflammation—concurs with the time when the child, apparently recovered, has returned home and is out of medical reach. All this is well shown in the case of a girl (Rose E——) aged nine years, admitted to the Westminster Hospital on Oct. 5th of last year with her first attack of rheumatism, the joint pains being of two weeks' duration. They were slight and disappeared altogether in two days, as did the slight pyrexia. The patient, unlike most children with rheumatism, was of ruddy complexion and well nourished, but it was reported that she sweated much at night. With the pressure of more urgent cases I do not know that for this symptom alone the child would have long remained an in-patient; but for what I am about to relate, and in view of these lectures, she remained with us several months. Now, on Oct. 14th, when the child was to all appearance well, the finger placed along the fourth space detected with ease and nicety the variable character of impulse and the unequal intervals between one revolution and the next. The ear confirmed the finger and added these further signs: a lengthening of the first sound, or what some would call a just perceptible systolic murmur, and together with this reduplication of the second sound, not at the base (where it is wished to be for the sake of the explanations, but rarely is), but at or a little above the apex. Two days later the signs had altered thus: the uneven rhythm remained, the reduplication of the second sound had disappeared, and now there was an undoubted blowing murmur following the first sound. On the two next days the heart's action became almost regular, but it faltered occasionally; the pulse was 96, perceptibly uneven; and the mitral murmur was less obvious. During the succeeding three weeks (the patient continuing in bed, though bright and cheerful, and without fever) the murmur varied *and the pulse was ill sustained*. It was even as to rhythm but unable to maintain an even force through the minutes—a feature which only becomes apparent when the observer will have the patience to keep his finger on the wrist for two or three minutes at a time. This child, as has been said, was kept under notice from early in last October until late in January. Not to weary you with repetitions, let me call attention to two points: (1) that at the end of our watching a loud, blowing murmur was established, together with signs of some heart enlargement; and (2) that for a considerable time the murmur, quite apparent in the recumbent position, ceased when the girl was erect. Thus mitral murmur was not fully established in this case until the end of two months, months wholly free from disturbed health, and for some time after its establishment it was dependent on position, insomuch that had the patient been attending as an out-patient the discovery of valve lesion might have been long delayed.

This gradual development of mitral murmur applies to a considerable number of rheumatic children, and is the source of much misconception. The patient is dismissed, as this child might have been, heart whole. He returns presently with a second attack of rheumatism and a mitral murmur; this latter has, in fact, developed very slowly and insidiously in the interval between the two attacks—it is the sequel of endocarditis, not endocarditis itself. But the physician, consulting the notes of the first admission, takes it for new; he quotes it as proof that a first attack may fail to touch the heart, and that permanent reflux is not always the work of time. Both statements are perhaps true, but they have fewer illustrations than at first seems.

The influence of posture upon murmur and reduplication of the second sound may often be observed in these early cases. At first, with the upright posture a more vigorous systole serves altogether to abolish these morbid sounds. After a while this effect is only accomplished for a short time, the murmur coming out as soon as the effort of sitting up causes fatigue, and at last the murmur becomes permanent, and posture affects it but little. In noticing such posture changes Walshe asks: "Is this changeableness of a murmur proof of its inorganic nature?" "My experience," he answers in his laconic way, "would support the negative."

I have presently to speak of varying murmur, at last almost disappearing. If once more we make the comparison between the endocarditis of chorea and of rheumatism (allowing for their distinctive characters), it might seem that what is the common event in the one case is the less common event in the other. In chorea the murmur grows, it becomes distinctly blowing, and is conducted into the axilla. It is then recognised by most as a sign of endocarditis. But presently it begins to lose these characters, and eventually the normal sounds return. Such is the common experience of chorea, rheumatism apart. We are not without evidence that similar recovery sometimes obtains in rheumatic endocarditis also, but for reasons to be presently mentioned we are without accurate information upon this point.

The Goulstonian Lectures

ON

THE PHYSICS OF THE CIRCULATION.

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LECTURE III.

SINCE the sphygmograph only gives the course of pressure movements in the vessel and no absolute measurements of the amount of pressure, we are in great part indebted to the beautiful and accurate manometrical observations of Hürthle[1] for what proof there may be of the sequence of events in the arteries and the modifications introduced into the pulse tracing by different conditions. The changes of pulse, especially, which accompany blood pressure variations can, by the use of his manometer, be measured in conjunction with the pulse wave. The blood pressure was raised by irritation of the sympathetic nerve in the neck of the rabbit and lowered by irritation of the depressor nerve of the vagus. Hürthle follows Marey in distinguishing between an upward and downward limb of the pulse curve as well as between a single or double summit. He divides the curve into a systolic portion from the commencement of the rise to the dicrotic notch, and a diastolic portion from this point onwards. With regard to the double summit, if the second summit is higher than the first, so that the first appears upon the rising limb, the pulse is termed "anakrotic"; if the second summit appears on the falling limb, between the first summit and the dicrotic notch, the pulse is termed "katacrotic." He discards all terms of signification in naming the secondary waves, such as "outflow remainder wave" or "tidal wave," since the terms have not met with universal recognition, and he simply names them in their succession—first secondary wave, second secondary wave, and so on. The side pressure in the aorta was always obtained by inserting the glass tube of his manometer into the carotid.[2] The animals were always narcotised by morphia. The pressure movements varied during pulsation between 100 mm. and 130 mm. Hg., so that the pulsatorial increase of pressure amounted to not quite one-third of the minimum pressure. He found that the curve reached its first summit on an average in 0·025″ and in about the same time sank to a quarter or half the whole pressure movement, to rise again to the height of the first summit. This second summit is the first secondary wave and appears 0·05″ after the commencement of the primary wave. The curve sinks again from the second summit to a point either above or under half the height of the pulse, where a further upheaval occurs, which, however, does not attain to the same height as the foregoing. The second secondary wave occurs 0·12″ after the commencement of the curve. Since the descent of the second secondary wave is more rapid than the rest of the descending side of the curve, we can distinguish yet a third secondary

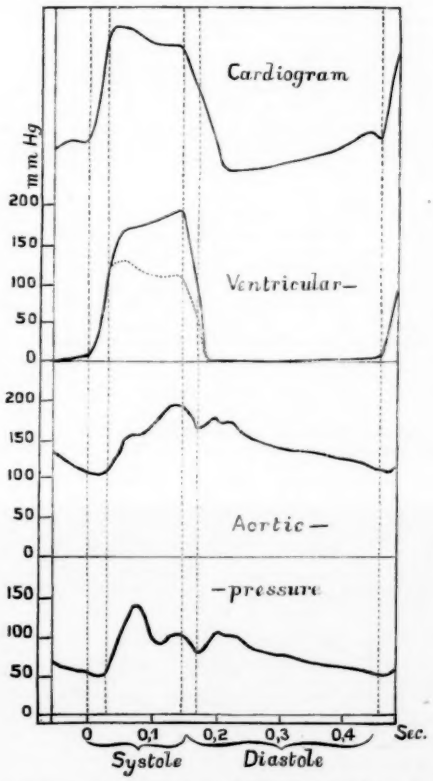
[1] Pflüger's Archiv, vol. xliii., 1888; vol. xlvii., 1890; vol. xlix., 1891.
[2] A full description of his manometer will be found in Pflüger's Archiv, 1888, vol. xliii.

wave, which often comes out as a distinct rise. Finally, before the commencement of the next pulse a fourth secondary rising is noticeable, which is quite short and low, but clearly distinguishable.

In comparing several consecutive pulses we can see that they are distinguished from each other by the second summit now rising above the first, now sinking below it. If the respiratory phases are registered synchronously with the pressure curve, then it becomes apparent that the second summit takes the highest place either at the end of expiration or beginning of inspiration, in order to sink again during inspiration above or below the level of the first summit.

A characteristic appearance of the pressure curve is furnished by different conditions of the vascular system. If the cervical sympathetic nerve is irritated the second summit appears to raise itself, some seconds after the commencement of irritation, more and more above the first, and so changes the appearance of the pulse curve that what was the first

FIG. 5.



Synchronous cardiogram and ventricular and high and low aortic pressure tracings. After Hürthle.

summit is only recognisable as a bend in the upward limb of the curve; by this means the limb becomes longer and ascends less rapidly, and the angle at the curve summit becomes more obtuse. When the depressor nerve is irritated there is a different change: the curve attains its summit very quickly, although the rise is higher than normal; thereupon follows, just as suddenly, a sinking to beneath the level of the pulse height, so that the angle of the summit is very sharp. The first secondary wave now occurs 0 05″ to 0 01″ later than normal; the other secondary waves do not change their place in so constant a manner on irritation of the sympathetic and depressor nerves.

These experiments clearly prove that changes of the lumen of the peripheric vessels cause certain changes in the pulse form. The estimation of blood pressure in the various forms of pulse scarcely allows a doubt that the change of the tone of the vessels can only change the pulse form by means of the blood pressure. A change of pulse form is never to be seen without simultaneous rising or falling of the blood pressure. The tension of arterial blood alters with the tone of the vessels through increase or diminution of the obstacles which oppose themselves to the blood stream. Thus in irritation of the sympathetic nerve the minimum pressure is raised about 10 mm. Hg; the pulsatorial excursion is in comparison somewhat smaller. In irritation of the depressor nerve the minimum decreases from 10 to 50 mm. Hg, and the pulsatorial excursion becomes greater. By compressing the other carotid the rise of pressure brought about the same kind of result as that which was obtained by irritating the cervical sympathetic nerve, as also by compressing the abdominal aorta. By drawing away about 15 c.c. of blood from the second carotid the reverse effect was obtained. Hürthle found that the height to which the primary curve reached in a given time under a low pressure could amount to more than four times as much as the curve rises to under a high pressure. It has been already said that with high blood pressure the ascending limb rises more slowly. These time variations are suggestive and enable us to form some idea as to the varied form of the primary wave, as seen in the accompanying diagram from Hürthle. If A, B, C is the primary wave under normal blood pressure, then, on rise of the blood pressure, it is converted into the less excursive and more slowly rising form *a*, *b*, *c*, whilst under low pressure the rapidly rising and more excursive form α, β, γ is produced. The descending limb of the pulse curve falls more quickly under low pressure than under high. By accurate time measurements Hürthle found that the first

FIG. 6.

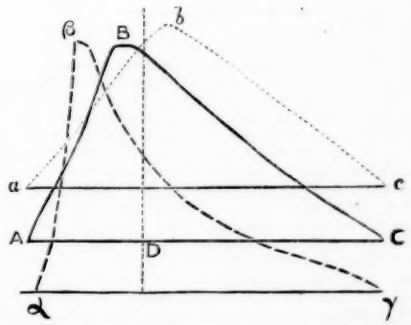


Diagram from Hürthle showing pulse variation with high and low pressure.

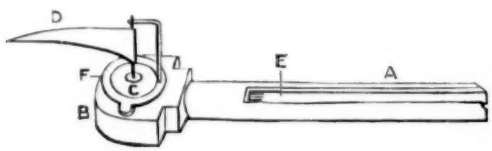
secondary wave occurred somewhat sooner than the primary under high pressure than under low pressure. If the first secondary wave occurs at the time-point D under normal blood pressure, then the double-pointed form of the pulse form *a*, *b*, *c* becomes anacrotic; on the other hand, if the wave appears under lower pressure, it occurs later, low in the descending limb of the pulse form α, β, γ. With regard to the nature of the first secondary wave Hürthle says: "If one can apply the results of the experiments made by Fick and v. Kries on human beings to the pressure pulse of the rabbit, then the first secondary rising which follows the summit must be regarded as a positive wave reflected from the periphery of the vascular system. The change which occurs in the time appearance of this wave with the alteration of blood pressure agrees with this assumption, for the velocity of propagation of the waves in the vascular system increases under increase of pressure, and *vice versâ*." Hürthle, moreover, repeated his experiments on the cat, with a like result.

I have already called attention to the variations in the tracing of the radial with lowered and raised arm, and the explanation of the variation. Not only with different conditions of the same pulse, but with different arteries, does the pulse form vary. Of these variations good examples are seen in the text-books.

To come to the possibility of the clinical application of all these facts. The pressure movements caused by the intra-arterial waves are accurately recorded by means of Marey's well-known sphygmograph. The pulse of high tension and the pulse of low tension there show their own distinct peculiarities. It has fallen into disuse for various reasons.

To begin with, it does not admit of obtaining a record of a long series of pulsations, or of pulsations of sufficient amplitude for the accurate measurement of their component parts, nor is it provided with a time recorder for this purpose; but its chief defect for clinical use is that it does not admit of obtaining simultaneous records from different parts of one artery, or from two different arteries, or from the heart's apex and one or more arteries. For these purposes it is necessary to use an ordinary recording cylinder with a large surface, and in the highest degree convenient to employ the principle of air or water transmission through flexible tubes. With suitable apparatus of the latter kind the pulsations of the artery can be conveyed to an ordinary tambour, one or more of which can be fixed on the same upright; and their levers, by a slight rotation of the upright, can be brought all at once into the same uniformly light contact with the surface of the recording cylinder. When the cylinder is stopped the points of all the levers can be moved through any part of the tracings of which it is desirable to obtain a synchronous measurement, and the distances between the various points can be measured at leisure. The cylinder should revolve at a known speed, but for the purpose of measurement of the synchronous tracings so obtained it is not sufficient to trust to the uniformity of speed obtainable by clock work. The upright should, if possible, itself carry a time recorder. For this purpose an electric interrupter is the most accurate; but for ordinary clinical purposes it is too cumbersome and too expensive, and is not sufficiently portable. A vibrating tuning fork of sufficient size is too heavy and difficult to manage. The necessity of obtaining a light and accurate time recorder which would fit on to the upright and thus permit adjustment to the surface of the cylinder together with the lever points during the rotation of the cylinder led me to consult with Mr. Horace Darwin of the Cambridge Instrument Company, who, amongst other suggestions, suggested to me the employment of a harmonium reed. Ultimately Mr. Darwin made such an instrument for me in a very ingenious manner. An ordinary harmonium pipe, its pitch being the low C vibrating sixty-four times in the second, is attached to a short flexible tube carrying a mouthpiece. Through this the reed can be set in motion by the breath. The other end of the pipe is connected with a tambour covered with a thin indiarubber membrane. To the membrane is attached a vertical pin carrying a very light and thin metal pennant. The pipe can be fixed on the upright, and the point of the pennant can, therefore, be brought into contact with the surface of the recording cylinder at the same time with the lever points. The vibrations of the reed are conveyed to the surface of the elastic membrane, and the tracing obtained is very beautiful and surprisingly accurate. Both up and down strokes can be easily measured, and a graphic time record is thus obtained which gives measurements to $\frac{1}{128}$" or, in decimals, 0·0078125". The extreme convenience of such an arrangement is obvious. It is alike inexpensive, easily worked, and lasting, and can be easily repaired. The experiment can be arranged, the lever points and time recorder adjusted in contact with the cylinder against a check, and then removed as one piece from the cylinder by a slight rotation of the upright. The cylinder is then set in motion, and at a favourable moment a current of air is blown by the mouth into the reed, and the upright is rotated against the check, a simultaneous record being at once obtained which can be accurately measured at leisure.

FIG. 7.



Harmonium reed adapted as a chronograph.

A sphygmograph *à transmission* was also devised for me at Cambridge. It consists of a wooden frame which rests on the front of the wrist, and which is kept in position by bands of inelastic material fastened behind it. Attached to the frame is a flat steel spring carrying a button at its free end, which is applied against the artery. The upper surface of the free end of the spring is jointed to a small vertical prop, which transmits the pulse movement to a tambour containing air. This tambour is made like a kettledrum, in that by turning some screws arranged round the circumference the tension of the membrane can be varied. The interior of the tambour is connected by means of a thick-walled elastic tube of small calibre to an ordinary Marey's tambour of the Cambridge pattern fixed on the upright. The steel spring can be depressed below the frame upon the artery by means of a screw; since this section also depresses the vertical prop, and with it the membrane of the tambour, the tambour itself is made to rise or fall on a vertical steel rod. The tension of the membrane and of the contained air can thus be modified. By introducing a T-piece into the elastic tube connecting the two tambours further modifications of tension can be obtained. The amplitude obtained by this instrument is not great, but it appears to be almost entirely free from movements of inertia. The response to stimuli is exactly as quick as that of a Sanderson's cardiograph.

For ordinary purposes of demonstration the most suitable sphygmograph is that made by Petzold of Leipzig; this, however, is a spring and lever apparatus with no air transmission, consequently the writing lever cannot be fixed upon the movable upright, and, though it is possible to use it simultaneously with the other levers, it has to be adjusted independently. This is a great inconvenience, for the recording clock must either be started from rest after the uniting points have all been adjusted against it, or else the clock must be approached to the uniting levers after it has been set in motion. Though the difficulty is by no means insurmountable, it offers a great trial of patience, and I think it is one which, for the attainment of simultaneous tracings, will always interfere with the ordinary clinical employment of Petzold's instrument. Still more trouble is experienced in marking off the simultaneous ordinates and abscissæ previously to measurement. No physician in active practice could, I think, afford time for the employment of other than transmission apparatus. When this is suitably contrived there should be no difficulty in the combined use of the cardiograph and one or more sphygmographs in the daily practice of any physician who wishes to make a closer study of the state of circulation, and who has the little careful patience necessary to attain the requisite skill. Some of the advantages of Petzold's instrument can, however, be transferred to a transmission apparatus. An immense advantage can be at once gained by using the frame furnished with Petzold's apparatus. It is figured on

FIG. 8.

A, Radial sphygmogram and chronogram, slow rate. B, The same at an increased rate.

page 23 of v. Frey's "Die Untersuchung des Pulses." The runners which lie on the wrist do not slip, as they lie in adaptation to almost any curve and are covered with velvet. The metal spring is of just the right flexibility and conveys the pulsations still more accurately and with greater amplitude than the spring of the instrument made for me at Cambridge. I have therefore obtained from Petzold two transmission sphygmographs, which combine all these advantages and which are beautiful examples of mechanical skill. As in his direct lever sphygmograph, there is an arrangement on the frame of these which permits of considerable latitude of horizontal adjustment after the frame is fixed by the bands which keep it in position. By this means the most favourable position over the artery is readily obtained, and the instrument will not then slip. The value of the combined method is strangely neglected, the results being most valuable for the purpose of diagnosis, as I hope to make clear before the conclusion of these lectures.

The velocity of propagation of the pulse wave and the length of the pulse wave may be taken together. The velocity of propagation of wave is to be clearly distinguished from velocity of blood flow. The two things are quite independent of each other. For instance, a high blood pressure is accompanied with diminished blood flow in Nos. 1, 5, and 6 of Waller's table, but a high blood pressure conditions a greater velocity of pulse wave. As already stated, the mean velocity of blood-flow in the large arteries may be taken as 0 3 metre, or a little over one foot per second. The velocity of blood wave was first measured in 1827 by Weber, who found the delay between two points 1·32 metres apart to be about $\frac{1}{10}$" to $\frac{1}{8}$", indicating a velocity of about from 7 92 to 9·24 metres per second, or about 28½ ft. Since then observations on pulse wave velocity have been made by many observers, notably by Keyt of Cincinnati, who was perhaps the first to employ the graphic method as a physician in daily practice. He employed water transmission. A full description of his "compound sphygmograph," which is a beautiful, convenient, and ingenious instrument, is to be found in his suggestive work on "Sphygmography and Cardiography,"[3] edited after Keyt's death by Dr. Isham. It is claimed by these writers that the inertia of the contained water is in Keyt's instrument reduced to a negligeable quantity, while they acknowledge that the time lost in the transmission of a movement is greater by water than by air. They claim that water transmits movements with much greater power than air, and that this fact gives their instrument a wider range of application, embracing feeble movements that air is incapable of inscribing. A full discussion of these points would occupy more time than can be given to it in these lectures. I myself cannot help feeling that a water wave appears in many of their tracings, and that the inertia of the water is a thing which it cannot but be desirable to eliminate. Nevertheless, Keyt's work, together with that of Isham, is, on the whole, extremely valuable and must always excite admiration. Keyt gives "the following results regarding the pulse transmissions along different routes: carotid femoral time 0·0797", which, with a distance of 18 in., gives a pulse velocity of 226 in. per second; carotid-radial time 0 0797", which, with 23 in. distance, gives a pulse velocity of 288 in. per second; and femoral-posterior tibial time 0 0606", which, with 33 in. distance, gives a pulse velocity of 544 in. per second." Other things being equal, it must be remembered that wave velocity is inversely proportional to the size and elasticity of the tube, and that these variations in velocity may be partly explained by the larger size of the aorta compared with the peripheral vessels. Since the less the elasticity of the tube the greater is the velocity of the pulse wave, it might be expected *a priori* that the velocity of wave is greater in old people than in young. Keyt found the pulse wave velocity in a child aged four and a half years to be 216 in. per second, in a young man aged twenty-five years 306 in., and in a man aged fifty years 416 in. per second. Again, taking the carotid and posterior-tibial interval in each case, he found the velocity in a child aged five to be 196 in., in a boy aged nine 247 in., in a man aged twenty-one 350 in., and in a man aged fifty-five 510 in. per second. He attributes these variations to the increased rigidity of the arterial walls with the progress of age. In the very rigid arteries of calcareous or atheromatous degeneration the velocity is largely increased; according to Keyt, increased or diminished intra-arterial blood pressure, on the other hand, does not appear to modify the pulse wave velocity to any considerable extent, nor is that velocity sensibly modified by variations of pulse frequency. The factors which chiefly influence pulse wave velocity are the size of the artery traversed and the amount of rigidity of the arterial wall. The carotid radial interval has been thus given by various observers:—

Time difference.	Velocity of propagation of pulse wave in metres per sec.	Writer.
0·094"	6·70	Czermak, 1864.
0·076"	8 29	Grummach, 1879.
0·080"	7·37	Keyt (died). 1885.
0·079"	7 63	Edgren, 1889.

My own measurements almost exactly correspond with those of Keyt and Edgren, being: time difference 0·078" and velocity of propagation 7·9 metres (27¾ ft.). Dr. Waller[4] has much the same results. Grunmach[5] found that when the arm was immersed in water at a temperature of 104° F. the delay of the carotid radial interval was increased from 0·07" to 0·096", owing to the local relaxation of the bloodvessels. Both Grunmach and Edgren have noticed a greatly diminished interval in arterial sclerosis and in chronic Bright's disease. Grunmach also found that the interval between the apex beat and the radial pulse increased by 0 162" or by as much as 0·194" when the blood pressure was lowered by expiratory compression of the thorax with closed glottis. According to Martius[6] the velocity is less during inspiration than during expiration—in the one case 6 m., in the other 8 m. per second. The length of the wave is calculated by Tigerstedt in the following way. Assuming that a ventricular systole lasts $\frac{1}{5}$", and that the velocity of propagation of the pulse wave is 8 m. per second, the length of wave set up by each systole would reach to a distance of $\frac{8}{5}$ (or $8 \div 5$) = 1 6 m. (5 ft., "It follows, therefore, given this presupposition, that only the longest arterial paths are long enough to receive the whole length of a pulse wave and that the end of the pulse wave is still in the aorta when the first part of it has already reached to the periphery." From this point of view the formation of the dicrotic wave by reflection has been already discussed in these lectures. It must be remembered that, where there is lessened rigidity of the vascular wall, as in parts affected with vaso-motor paralysis, or where there is somewhere an increased width of the arterial path, as in parts affected with aneurysmal dilatation, the time of appearance of the distal pulse is delayed. Supposing that we now take simultaneous tracings from the heart's apex and from the radial artery, the cardio-radial interval will be found to be about 0·17". Of this time we will assume 0 03" to be occupied in the transmission of the pulse wave from the carotid to the radial. We may further deduct 0 02" for the time occupied in the transmission of the wave from the semilunar valves to the point of the carotid whence our tracing is taken. This will leave a period of 0·07", which we must take to be the time occupied between the commencement of ventricular systole and the opening of the semilunar valves—in other words, this is the time, the *Anspannungszeit*, occupied in raising the intra-ventricular pressure sufficiently high to overcome the aortic pressure. This period of time is appropriately named by Keyt the "præsphygmic interval." He, however, considers the time occupied in the transmission of the wave along the path from the semilunar valves to the carotid to be so brief compared with the whole cardio-carotid interval that it may practically be neglected, and he, therefore, in speaking of the præsphygmic interval, must be understood to mean the interval between the commencement of the ventricular systole and the carotid pulse. For a pulse frequency of 70 Keyt's præsphygmic interval would be about 0·08". In his very interesting paper,[7] "Notes of Observations on the Rate of Propagation of the Arterial Pulse Wave," Dr. Waller estimates this interval to be between 0·06" and 0·09" and remarks: "This considerable delay affords a reason for the distinct post-systolic character frequently recognisable as belonging to murmurs of aortic obstruction. It also explains why a first sound heard undivided at the heart's apex is often, as it were, split into two portions if listened to above the clavicle, the first portion being the transmitted first sound, the second the arterial rush beneath the stethoscope." Keyt states that the præsphygmic or cardio-carotid interval is, normally, about one-tenth the duration of the pertaining pulsation. "Thus a pulse of 60, 1" long, will give for the interval $\frac{1}{10}$"; a pulse of 72, $\frac{5}{6}$" long, would give $\frac{1}{12}$th, and so on." To everyone who has taken many tracings cases in which the præsphygmic interval is greatly diminished or even absent must afford matter for thought. My own attention was first called to it by the case of a man aged fifty-five suffering from emphysematous asthma and bronchitis. Wheezing and sibilus, with loud rhonchi, entirely obscured all sounds at the base of the heart; the apex-beat in a certain recumbent position was, however, plainly to be felt. The arteries were hard, tortuous, and atheromatous. A heart-radial tracing was easily obtained. The duration of cardiac systole was 0·2578", the pulse-rate being 75 per minute and this duration being 0·03" shorter than the shortest variations of normal systole for this pulse-rate. The heart-radial delay was 0 1328" to 0·1406", as compared with a normal interval of about 0·17". A simultaneous carotid-radial tracing was then obtained, the carotid-radial delay being 0 10157". Subtracting this from the heart-radial interval, the heart-carotid or præsphygmic interval was shown to be greatly diminished—viz., 0·039" to 0·031" as compared with a normal præsphygmic interval of 0·080". Reflecting much over this case, it occurred to me that since the præsphygmic interval represented the

[3] New York, 1887. [4] Journal of Physiology, vol. iii., No 1. [5] Archiv für Anatomie und Physiologie, 1829. [6] Ibid. 1891 Journal of Physiology, vol. iii., No. 1.

time occupied in raising the intra-ventricular pressure to an excess over the aortic pressure, and that a pulse-wave could not appear in the arteries until the semilunar valves were opened, there must in this case be some condition present whereby intra-ventricular pressure was equal to the aortic pressure at the commencement of systole. Such a condition would exist under the supposition that the semilunar valves were incomplete, whereby the aorta and ventricle formed one cavity. During diastole blood would freely regurgitate into the ventricle. At the end of diastole the intra-ventricular pressure would therefore be equal to that in the aorta, and at the commencement of systole a wave would straightway appear in the aorta without the intervention of a præsphygmic interval. A simultaneous tracing was then taken from the heart and subclavian, when this interval was found to be practically *nil*. At the time I had met with no mention of this possibility among German writers, and I referred with much interest to Keyt, whom I found to have clearly recognised this abnormal shortening of the præsphygmic interval in aortic insufficiency. The fact was first demonstrated to the Société de Biologie as long ago as March, 1878, by François Franck. Keyt's tracings furnish a further proof, which seems to me to be conclusive. In my own case there was a "to and fro" rough double murmur, only to be heard at the apex owing to the wheezing and râles, which obscured all sounds at the base. I could not satisfy myself by auscultation that the murmur was mitral. The tracing, therefore, was most valuable as a means of diagnosis and satisfied me that my patient was suffering from aortic incompetency with ossification at the base of the heart. The case is specially interesting, since I do not know of any other method than the graphic one by which a correct diagnosis could have been made.

In his preliminary chapter on the "Variations of the Præsphygmic Interval in Disease" Keyt gives as his first proposition that "the præsphygmic interval is abnormally shortened in free aortic insufficiency," and I think that this proposition, confirmed as it is from independent sources, is one that should be admitted. He, with a positiveness which almost calls up antagonism, says: "The testimony is ample and complete and establishes the fact beyond question." If not quite so positive, we must allow, in full agreement with him, that the acquisition of the fact "is one of the triumphs of the graphic method." Keyt's positiveness often leads him to a logical fallacy. Having accepted the proposition that "the præsphygmic interval is always shortened in free aortic insufficiency," we are not bound to the proposition that the præsphygmic interval cannot be, even markedly, shortened in some other way, nor to reverse his proposition by saying that whenever the presphygmic interval is shortened we can diagnose aortic regurgitation. By the graphic method we are merely put into possession of an excellent means of more closely approaching to a correct diagnosis. Keyt himself, in another place, admits diminution of the interval in certain febrile conditions with rapid pulse; and it seems to me that there may be other conditions, as when there is congestion of the pulmonary veins and left auricle with low aortic pressure, tending to bring about an equilibrium of pressure on both sides of the semilunar valves towards the end of diastole, which would cause the same diminution of cardio-carotid interval.

If we accept, as I am disposed to do, that marked aortic insufficiency is always accompanied by great diminution of the cardio-carotid interval, it follows that in cases where such insufficiency is known to exist, and there is either no alteration from the normal delay or, still more, when there is an increase in the delay, we must assume the presence of some other retarding influence, of which the most obvious is aneurysm. François Franck[8] in discussing the well-known and accepted delay of the pulse due to an aneurysmal dilatation somewhere in its path, says that the retarding effect of the aneurysm may be counterbalanced by the inverse influence of aortic insufficiency, the combined results of the two opposing effects being the conservation of the normal delay. Keyt considers that in such a case the presence of aneurysm would be a positive certainty. I have very great admiration for Keyt's laborious and ingenious work, and for his suggestiveness in connexion with this part of his subject; but I feel that he is inclined to rush precipitately to dogmatic statements from not wholly established premisses in connexion with difficult matters on which our present knowledge is necessarily imperfect. It can, however, be understood that when heart and radial delay is normal in a case of undoubted aortic regurgitation, and still more clearly, if the heart and carotid delay is normal, we have something for which it is necessary to account, and that the most likely explanation would be the presence of an aneurysmal dilatation somewhere in the course of the vessel. Suppose now that simultaneous tracings are taken from both radials. If the radial pulses are synchronously delayed we may assume that the unseen and unsymptomed aneurysmal dilatation involves the ascending or transverse part of the aorta. Should the right radial show delay there is a probability in favour of the dilatation affecting the innominate and the vessels arising from it; should the delay be on the left side only the aneurysm is located further along the arch. In fact, delay affecting any artery may be an important step towards the localisation of a presumable aneurysm in a part beyond the reach of direct observation. I think, for those who require some immediate proof of practical use from any study, this should give the combined use of the sphygmograph and cardiograph a distinct claim on their attention.

Keyt, by means of experiments with a schema and from observations of cases of mitral regurgitation, was led to formulate another proposition—viz., that "the præsphygmic interval is abnormally lengthened in mitral insufficiency." He laments that his announcement attracted but little attention and that his observations have neither been confirmed nor disproved by others. I think it is as well to discard all experiments with a schema if by them we think to imitate with any accuracy the behaviour of our own extremely complicated organism. The assumption to which such experiments led Keyt is that the intra-ventricular blood pressure will not rise to an excess over the aortic pressure so soon as normally if some of the ventricular blood can escape back into the auricle owing to incompetent mitral valves. No one can deny the possibility of his proposition in some instances. That it can be accepted as a general proposition applicable to all cases I cannot think; it would, even theoretically, need innumerable qualifications. It would be necessary always to exactly know the amount of blood pressure in the aorta and the relation of aortic pressure to the length of the præsphygmic interval. To say the least, this has not yet been worked out. The varying amount of blood flow from the auricle and the varying pressure within it at the end of diastole, the state of the auricular muscular walls and the time of auricular relaxation, as well as the changes in the pulmonary circulation owing to various causes, would all have to be considered. When Keyt goes further and contrasts the value of the graphic method with the auscultatory, to the disadvantage of the latter as regards the diagnosis of mitral incompetency, we begin to ask for distinct clinical proof of his general statement. We then find that he divides cases of mitral regurgitation into two classes, one of which he distinguishes as consisting of cases of "pure, harmful mitral regurgitation," and the other of cases of "harmless regurgitation." The latter are cases presenting a bruit, but where the heart is unembarrassed and regular, and where the compensation is permanently satisfactory, these cases, according to Keyt, present no lengthened præsphygmic interval. This arrangement may be convenient for his argument, but I do not think it will appear to be particularly helpful to us. He has, with the best intentions, begged the question in his eagerness to prove his point. Are we to assume that we obtain abnormal lengthening of the præsphygmic interval only in cases of uncompensated mitral disease? Then surely the deranged innervation, the irregularity, and the feebleness of contraction may also play some part in producing the pulse delay? Keyt, however, distinctly asserts that by the aid of this sign a positive diagnosis may be made at once, in any stage of the case, and without waiting for the development of sequences and symptoms; and that by the amount of retardation we may measure the amount of the regurgitation. One can but look wistfully at such a possibility. I do not think Keyt's tracings in this particular are very convincing.[9] Moreover, I have not myself obtained definite results in either direction, having in some cases met with cardio-carotid delay, but in others, where the mitral incompetency was very considerable indeed, I have failed to obtain any variation from the normal.

I have spoken of Dr. Waller's description of the post-systolic character given to a murmur of aortic obstruction owing to the intervention of the præsphygmic interval, the murmur following immediately after, though almost with, the first sound. The assumption here—and I think very probably a correct one—is that the first sound concurs with

[8] Journal de l'Anatomie et de la Physiologie, vol. xv., March to April, 1879.

[9] Loc. cit., p. 193.

the commencement of contraction, being a muscular rather than a valvular sound. Is it possible that the murmur of aortic obstruction, when there is also aortic insufficiency, may, the præsphygmic interval being absent, antedate the first sound? Keyt thinks it may, but we should have to assume in this case (1) that the first sound was purely due to valvular closure, and (2) that the closure occurred some time after the commencement of ventricular contraction—both of which assumptions are contradicted by physiological experiments.

An interesting tracing, which I obtained in a case of renal disease, well illustrates a point which I mentioned in an early part of these lectures, and gives an explanation of some cases of what, to the ear, appears to be an independent action on the part of the two ventricles.

FIG. 9.

Usually one pulse is felt to each pair of contractions. The heart seems to "tumble" in its action, and two first sounds may be distinctly heard in close sequence, followed by one second sound. The descending limb of the first of each pair shows no distinct angle of drop, and the descent is slow, as if during relaxation of the ventricle the heart was still distended with blood. There is, however, a distinct auricular systole preceding the first rise. The auricular systole is absent from the second of the pair, which is more like a typical cardiogram. The first effort of the heart here is no doubt imperfect and tentative, and the ventricle is not emptied. A second, more complete, contraction follows, whereby the ventricle is emptied of blood, the pulse appears in the arteries, and a second sound duly occurs. It will always be a matter of regret to me that at that time I had not sufficient knowledge of methods to obtain a simultaneous pulse tracing, which would have placed the explanation beyond the possibility of doubt. It is, however, quite clear that the heart makes two distinct contractions and that the appearances on the tracing are not due to independent action of the two ventricles; it is an effort at compensation of a curious and hitherto unnoticed kind.

Table for facilitating Measurements by means of a Harmonium Reed vibrating 64 complete Vibrations in a Second.

Half vibrations.	Fractions of second in decimals.	Half vibrations.	Fractions of second in decimals.	Half vibrations.	Fractions of second in decimals.	Half vibrations.	Fractions of second in decimals.
1 =	0·0078125	33 =	0·2578125	65 =	0·5078125	97 =	0·7578125
2 =	0·015625	34 =	0·265625	66 =	0·515625	98 =	0·765625
3 =	0·0234375	35 =	0·2734375	67 =	0·5234375	99 =	0·7734375
4 =	0·03125	36 =	0·28125	68 =	0·53125	100 =	0·78125
5 =	0·0390625	37 =	0·2890625	69 =	0·5390625	101 =	0·7890625
6 =	0·046875	38 =	0·296875	70 =	0·546875	102 =	0·796875
7 =	0·0546875	39 =	0·3046875	71 =	0·5546875	103 =	0·8046875
8 =	0·0625	40 =	0·3125	72 =	0·5625	104 =	0·8125
9 =	0·0703125	41 =	0·3203125	73 =	0·5703125	105 =	0·8203125
10 =	0·078125	42 =	0·328125	74 =	0·578125	106 =	0·828125
11 =	0·0859375	43 =	0·3359375	75 =	0·5859375	107 =	0·8359375
12 =	0·09375	44 =	0·34375	76 =	0·59375	108 =	0·84375
13 =	0·1015625	45 =	0·3515625	77 =	0·6015625	109 =	0·8515625
14 =	0·109375	46 =	0·359375	78 =	0·609375	110 =	0·859375
15 =	0·1171875	47 =	0·3671875	79 =	0·6171875	111 =	0·8671875
16 =	0·125	48 =	0·375	80 =	0·625	112 =	0·875
17 =	0·1328125	49 =	0·3828125	81 =	0·6328125	113 =	0·8828125
18 =	0·140625	50 =	0·390625	82 =	0·640625	114 =	0·890625
19 =	0·1484375	51 =	0·3984375	83 =	0·6484375	115 =	0·8984375
20 =	0·15625	52 =	0·40625	84 =	0·65625	116 =	0·90625
21 =	0·1640625	53 =	0·4140625	85 =	0·6640625	117 =	0·9140625
22 =	0·171875	54 =	0·421875	86 =	0·671875	118 =	0·921875
23 =	0·1796875	55 =	0·4296875	87 =	0·6796875	119 =	0·9296875
24 =	0·1875	56 =	0·4375	88 =	0·6875	120 =	0·9375
25 =	0·1953125	57 =	0·4453125	89 =	0·6953125	121 =	0·9453125
26 =	0·203125	58 =	0·453125	90 =	0·703125	122 =	0·953125
27 =	0·2109375	59 =	0·4609375	91 =	0·7109375	123 =	0·9609375
28 =	0·21875	60 =	0·46875	92 =	0·71875	124 =	0·96875
29 =	0·2265625	61 =	0·4765625	93 =	0·7265625	125 =	0·9765625
30 =	0·234375	62 =	0·484375	94 =	0·734375	126 =	0·984375
31 =	0·2421875	63 =	0·4921875	95 =	0·7421875	127 =	0·9921875
32 =	0·25	64 =	0·5	96 =	0·75	128 =	0·1

These lectures must now come to a close. I should like publicly to recognise the enlightened spirit of the board of management of the Hereford General Infirmary, who granted me £25 for the improvement and purchase of apparatus, and to return my thanks to the Scientific Grants Committee of the British Medical Association for the sum of £5 for minor expenses. Finally, I must thank the College for entrusting these lectures to me. It has been my effort to be clear rather than literary, but the difficulty of my subject is great, and I fear that I can scarcely have succeeded in either attempt. The honour of giving them has, however, been something to me, and the feeling that they might be of use has made me think the task light indeed. I can only hope that you, in hearing them, as I, in writing them, have gained some clearer vision of things still lying in much obscurity.

ABSTRACT OF

The Ingleby Lectures

ON

THE COMMON FORMS OF DYSPEPSIA IN WOMEN.

Delivered at Mason College, March 15th, 1894,

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LECTURE I.

GENTLEMEN,—These lectures serve, in the first place, to recall to us the memory of Dr. Ingleby, one of the ablest and best of the former teachers in this medical school, and one of the most eminent among many eminent men who have practised the art of medicine in this city. In the second place, they afford an opportunity for giving a little of what it is the fashion to call "post-graduate" instruction—that is, teaching of a more advanced kind, specially adapted to the requirements of practice. In the choice of a subject I have felt somewhat hampered by the necessity of confining myself to diseases in their relations to women or children; and in thinking over this limitation those who have done much out-patient work will understand how naturally my mind turned to the well-known type of dyspeptic woman which constitutes two-thirds of the adult female patients in our hospital out-patient medical departments, and must form a considerable part of the daily work of every general practitioner. She is the principal object of stock mixtures and routine treatment, and is passed by hurriedly to gain time for the investigation of cases presenting more obvious signs of definite organic disease. I confess that in the days when I was an overworked labourer in the out-patient department I was too much borne down by her numbers to regard her with much favour; but I remember, as one of my first practical experiences, that her dyspepsia was not to be remedied by the drugs which I had learnt from books were the appropriate means for that ill-defined condition—that neither bismuth, nor rhubarb and soda, nor vegetable bitters allayed the pangs of which she made such voluble complaint; while a little later I believed that nux vomica or strychnine with mineral acids or sometimes the tincture of the perchloride of iron, combined with the use of an aperient, satisfied at least the majority of her class, and having established that somewhat superficial induction I was contented to prescribe for her in a stereotyped fashion with comparatively satisfactory results. These stomach troubles originate almost invariably as a neurosis dependent upon debility from anæmia or overwork. The nervous defect shows itself most commonly, or in the first and simplest form, by depressing the motor functions of the stomach and intestine; secondly, by increasing the sensitiveness of the gastric mucous membrane; and, thirdly, by diminishing its secretion. But a condition that starts as a pure neurosis is apt to become more complex as time goes on; a pure motor defect causes delayed digestion, dilatation, fermentation, pain, flatulence, eructation, vomiting and gastritis. The simpler cases, in whom there is merely atony, with some pain and flatulence as its symptoms, make up the great bulk of the out-patient class; but the in-patients

present more serious features, of which vomiting is the most constant, due either to gastritis or to hyperæsthesia of the stomach. I can fully confirm Leube's observation of the particularly frequent association of gastralgia with anæmia or chlorosis, and I have in several published lectures insisted on the importance of the diagnosis of these cases from those of ulcer of the stomach, which they so closely resemble. Hyperæsthesia of the stomach, existing in only a moderate degree, so as to cause pain after food, is often the cause of very serious derangement of health, as it does not yield to routine treatment. Death may result from want of proper care.

Because Czerny's dog lived for some years without a stomach and was no worse for the absence of that organ a certain school of physiologists has of late years attempted to deny its importance, and maintains that it is only a useless survival in man of a vegetarian stage in his existence; but a very great step has been made towards the clear understanding of stomach disorders in the method introduced by Küssmaul of examining the contents of the stomach during digestion, or a given time after the ingestion of food, by means of the stomach-tube. By this and other means recently discovered we can investigate the size of the stomach, the condition of its muscular wall, the quantity and quality of the gastric juice, and the presence in the stomach of abnormal substances which may injure its glandular mucous membrane, impair its function, and give rise to pain, flatulence, and other troubles. The stomach is a hollow muscular organ, lined with a mucous membrane which may be regarded as a very large compound gland, pouring into the cavity a mixed complex secretion of very great importance, called the gastric juice. This secretion is formed under the stimulus of any ingesta which reach the stomach, and its main purpose is to act upon and convert the native albumens more or less coagulated by cooking—which form such an important part of our food—into soluble albumoses and peptone. The function of the muscular wall is to mix and circulate the gastric juice with the food and, after a lapse of time, to expel the contents of the stomach into the intestine. We do not know the mechanism which regulates the opening of the pylorus or outlet by which the stomach communicates with the bowel, but we do know that the discharge of the contents at the proper time depends upon the integrity of the muscular portion of the stomach wall. We also know that the conversion of native albumen into peptone depends upon the action of pepsin in the presence of free hydrochloric acid, and that in the absence of either of these essential elements of digestion the proper conversion of food in the stomach does not take place. Therefore, the problems we set ourselves to solve in a given case where there is dyspepsia—that is, where the function of digestion is slow and painful, attended with the evolution of gases abnormal in quantity or quality, or by signs of irritation of the mucous membrane of the stomach—the problems, I repeat, we set ourselves to solve are: Is the muscular wall active and capable of discharging the stomach contents in due time? and, Are pepsin and free hydrochloric acid present in sufficient quantities, and does the gastric juice possess its normal power?

The motor functions of the stomach may be determined by a series of observations upon the length of time after a meal of determined nature at which a distinct residuum of food could be extracted from the stomach by means of a tube or an emetic; but although this has been done a more convenient method has been devised, which depends upon two facts: (1) that the normal stomach contents are acid, but become alkaline after being mixed with bile in the duodenum; and (2) that salol (a compound of phenol and salicylic acid) breaks up in the presence of alkalies into its component parts, which are excreted in the urine, where their presence may be demonstrated in the usual manner by the perchloride of iron test. The dose is fifteen grains, given about one hour after food, by which time the stomach contents have become distinctly acid. According to the observations of Ewald, in from forty minutes to one hour and a quarter the urine should give the reaction, while thirty hours later there should be none. If it has not appeared in the time first mentioned, or has not disappeared at the end of the time stated, we are justified in inferring that the muscular wall of the stomach is defective in the performance of its function, and if there is no evidence of pyloric obstruction this must be due to atony of the muscular wall, a condition which is a very common one, and plays a leading part in the pathology of the cases now under consideration. This condition of atony leads in time to more or less dilatation, which may be demonstrated in various ways. It may be possible to map out the stomach by palpation and percussion when distended by food or fluid, and in the latter case we may elicit a distinct succussion splash; but in less marked cases this is not easy, and the thickness of the abdominal wall may interfere greatly with the precision of our manipulation. Some assistance may be derived by distending the stomach with a spray-producer attached to a stomach-tube introduced into its cavity. This method does not cause pain, and by the altered resonance on percussion gives very fair indications. The old plan of distending the stomach by administering an alkali and an acid separately is not to be recommended, as the carbonic acid gas evolved causes spasmodic closure of the cardiac opening, and great pain and even fainting may result from over-distension.

The examination of the gastric contents is rather more complex, but is based on even simpler principles. We give the patient—say at 8 A.M.—a breakfast consisting of four ounces of bread and a pint of weak tea without milk or sugar. Numerous observations made by Ewald and Boas have shown that for the first half or three-quarters of an hour lactic acid preponderates in the contents of the stomach, then distinct traces of hydrochloric acid begin to be present together with lactic acid, and at the end of an hour the lactic acid disappears, and free hydrochloric acid alone is present. Then one hour after the administration of the test breakfast the stomach-tube is introduced and the contents of the stomach removed, an operation which is very easy, and is facilitated by voluntary compression of the abdominal muscles by the patient. In this way a few ounces of gastric contents are obtained, which consist of the remains of food mixed with the secretion of the gastric mucous membrane, with saliva, and possibly with a little bile. This material is filtered, and its reaction tested with litmus paper. If alkaline or neutral, it indicates a very abnormal state of the gastric secretion, such as is only met with in a few cases of advanced organic disease. It is as a rule acid, and we have next to determine the nature of the acid present. The test for lactic acid is made by adding to a 1 per cent. solution of carbolic acid a few drops of perchloride of iron, as I do now, and diluting this, if necessary, with distilled water until we possess a solution of a pale amethyst colour. On adding a little of the filtered stomach contents the amethyst blue turns to a canary yellow if lactic acid be present. This reaction is given by lactates as well as by lactic acid, and by other substances, such as alcohol; but under the conditions of our experiment these fallacies are of no importance. If the solution turns pale yellow with a reddish or brown lustre butyric acid is present; but this, too, is not important in the case of our test breakfast, though the fact is of value in the examination of vomited matter, for butyric acid is a product of fermentation in the stomach, and is a very powerful irritant of the gastric mucous membrane. Whether or not lactic acid is present, we have to determine if there be any free hydrochloric acid in the gastric contents—that is, whether the secretion of hydrochloric acid by the peptic glands of the stomach has been sufficient to supply all the chemical affinities present in the food and to leave a surplus, as should be the case in healthy digestion. There are many reagents which have been employed for this purpose; but I invariably make use of Gunzberg's test, consisting of two parts of phloroglucin, one part of vanillin, and thirty of absolute alcohol. If I dip a splinter of wood in this solution and then touch it with hydrochloric acid it turns red. If we put a few drops of the solution into a capsule together with a few drops of filtered gastric contents, and warm them gently over a lamp so that the fluid is evaporated, the appearance of streaks and patches of bright red indicates the presence of free hydrochloric acid, and this test is so delicate that it will detect less than 0·05 part of free hydrochloric acid per mille.

Our next business is to determine whether the gastric juice contains a sufficiency of pepsin; and if we have proved that there is a due supply of hydrochloric acid we must conclude that, if pepsin is not absent, peptone should be found in the filtrate. The test for peptone is what is called the biuret reaction, the rose-red colour on adding peptone to Fehling's solution; but of late years it has been shown that the albumoses, which are a transition stage between albumen and peptone, give this reaction, so that we must first get rid of these by saturating the filtrate with ammonium sulphate, allowing it to stand for twenty-four hours, filtering it, and perhaps saturating it again, warming it gently, and again

filtering before we have a fluid in which we can with certainty affirm the presence of peptone. Not very uncommonly it happens that the result of this proceeding in cases of dyspepsia is negative, yet we are not thereby enabled to conclude that pepsin is deficient unless albumoses also are present. It becomes necessary to carry our investigation a stage further by employing our filtered gastric contents as a digestive agent in artificial digestive experiments. This work necessarily takes up a good deal of time, and I do not suggest that every busy practitioner can investigate his cases so completely.

A great number of experiments has demonstrated that atony of the stomach, involving delay in the transfer of the gastric contents into the intestine, is the most constant, the earliest, and the most important factor in the production of the common dyspepsia of women. The defective movements of the muscular wall lead to incomplete admixture of the gastric juices with the ingesta. By and by the stomach becomes slightly dilated; a residue of food remains in the stomach until the next meal is taken, and this liquid organic matter, which contains normally many micro-organisms and is deficient in its natural antiseptic, hydrochloric acid, undergoes fermentative decompositions, giving rise to the formation of lactic and butyric acids, which cause irritation of the gastric mucous membrane, discomfort and pain, and are attended by the evolution of gases, which cause flatulence and often smell offensively. A stomach in such a condition is very prone to attacks of subacute gastritis. This inflammatory reaction is slight at first, but it weakens the resistance of the membrane, renders it more prone to acute or subacute exacerbations, manifested by what are called bilious attacks, and, in course of time, determines atrophy of the glands of the stomach, with consequent diminution of the gastric juice, and as it extends through the mucous and submucous coats to the muscular layer further weakens this, and leads to increased atony and some degree of permanent dilatation. When this is established the vicious circle is completed and all the evils I have enumerated are intensified and the stomach troubles become very serious. The initial evil—atony of the wall of the stomach—arises from many conditions—anæmia, overwork, want of sleep, and anxiety—which are the lot of so many women in the course of the duty of bringing up a family; it arises from superlactation, want of sufficient food, confinement to the house, and irregular meals, from acute diseases, and want of proper rest, good food, and fresh air during convalescence. Does not the recital of these causes remind one too forcibly of the common lot of most of the women in our great towns; not only the wives of artisans or of the middle class, of clerks, warehousemen, and shop assistants, but of the wives of many who are in fairly comfortable circumstances, but on whom sickness makes demands which they are not in a position to meet with all the resources of wealth? I do not think we need wonder that these cases are so deplorably common, and that they continue to get worse instead of better under the persistence of unfavourable conditions and the routine prescription of digestive nostrums; and simple atony of the stomach due to debility, originating as has been described, constitutes the essential and sole lesion in the majority of women suffering from so-called dyspepsia.

A CASE OF "SUPPURATIVE PYLEPHLEBITIS" IN WHICH LAPAROTOMY WAS PERFORMED.

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FOR the opportunity of publishing this case I am indebted to the kindness of Mr. Frederick Parsons of Wimbledon, under whose care the patient was. The subject of the somewhat remarkable experience now to be recorded was a young lady aged fifteen, who was seized on the evening of Sept. 17th, 1892, with the symptoms of perityphlitis. Her home was in Canada, but she was at the time a pupil at a school in England. She had recently returned from Canada and had landed from the steamer about ten days before the date mentioned. The points worthy of note in her previous history were these. She had always enjoyed robust health, but had been the subject of somewhat troublesome constipation. Four years previously she had had a slight attack of perityphlitis, which was attended with high fever, but which soon yielded to castor oil. Again, two years ago, she had a similar attack after an ocean passage. This was attended by constipation and was almost immediately relieved by aperients. One of her brothers had had an attack of perityphlitis. During her voyage across the Atlantic her appetite had been excellent, and she had in no way checked it. Not only had she eaten very well at all her meals, but she had consumed a quantity of nuts, including cocoa-nut, and no inconsiderable amount of "candy" during the leisure intervals of the day. She was menstruating during the voyage and appears to have totally neglected her bowels. During the ten days which elapsed between her arrival in England and the onset of the attack she had been in her usual good health, and, according to her own account, her bowels had acted regularly. The attack came on at night with abdominal pain and vomiting. The pain was about the lower part of the abdomen and was at first inconsiderable; it increased, however, and by noon on the following day (Sept. 18th) was severe and more diffused. At this time she was seen by Mr. Parsons, who found the abdomen to be a little distended and exceedingly tender. The pulse was 90, small, and regular; the temperature was 100° F.; the tongue was thickly coated. Some Dover's powder and grey powder were given, as well as a little nepenthe. A hot fomentation was applied to the abdomen, and a limited milk diet was ordered. These measures soon gave relief to the pain; the vomiting ceased and did not again appear until some days later. The temperature reached 102·6° on the 19th (the third day) and 104° on the morning of the fourth day. On the 19th two enemata were given, which brought away a few scybala. On the 21st (the fifth day) a more copious motion was passed, and the temperature dropped to normal. On the sixth day the bowels were freely relieved four times, and on the seventh day the patient felt almost well, her temperature on the evening of that day being 98·8°. The only part of the abdomen in which any tenderness remained was the right iliac fossa. On the eighth day, at 5 P.M., the patient had a rigor of some severity, the temperature rising to 103°. She also vomited once. On the next day the pain and tenderness in the abdomen had returned; there was now considerable meteorism, the patient complained greatly of distension, and she had pain and difficulty in micturition. The bowels were kept well open by means of enemata and an occasional dose of castor oil. On the ninth day there was one rigor at 1.40 P.M. (temperature 102 6°); on the tenth day there were four rigors (highest temperature 104·4°), and on the eleventh day two rigors (temperature 102 8°). On the last-named day Sir William Broadbent saw the patient with Mr. Parsons. He diagnosed the case as one of stercoral ulcer and ascribed the high temperature to the absorption of poisonous products. At that time the bowels were still acting daily; the pain and tenderness were on the whole less and were once more almost limited to the right iliac fossa. There was no vomiting; the distension of the abdomen continued. There was no interference with the breathing, but there was still difficulty in micturition. There was no rigor on the twelfth, fourteenth, and fifteenth days, but there were two on the thirteenth. On this day the patient complained for the first time of pain in the back, just below the last rib of the right side. Under the influence of treatment the bowels were acting daily, and at this date a considerable quantity of granular matter was passed which appeared to be composed of masticated nuts. The patient was taking her food fairly well, but was still restricted to a slop diet. She was very weak and was troubled with profuse perspiration and with occasional shooting pains in the stomach. There had been no vomiting since the eighth day. The abdomen was still distended and tympanitic. From the tenth to the twenty-ninth day there was little new to record. The patient was gradually becoming worse and was losing strength rapidly. She seemed to be utterly prostrate and miserable. The range of the temperature during these days presented remarkable features. On almost every day there was a severe and exhausting rigor. These occurred at very irregular hours. The six rigors last recorded were noted at the following times—viz., 5 P.M., 7 A.M., 2 P.M., 8 P.M., 4 A.M., and 9 A.M. The rigors were most distressing, causing the child to cry out in terror, and they were followed by profuse perspiration. There was now vomiting of a copious bile-stained fluid, mixed with mucus, which was associated with most of the rigors. The bowels also had become loose, many fluid motions being passed daily, with a

good deal of mucus, but no blood. As time passed on, the motions came to resemble those met with in typhoid fever. The child was much emaciated, and some delirium was noted for the first time on the twenty-sixth day. The skin became a dull-grey colour. There was never any jaundice. No albumen was discovered in the urine except in an amount which the high fever might account for. There was at no time swelling of the feet, and there was no œdema of the abdominal wall, no ascites, and no hiccough. On the nineteenth day there was some pain in the right chest, which "caught her breath." It soon passed off, and at no time was there any lung complication. The abdomen remained distended and tympanitic. There was still a little tenderness over the cæcum, but the chief pain was over the situation of the liver. The whole of the skin covering the hepatic area appeared to be hypersensitive, and the tenderness was especially marked behind. The liver was enlarged, but the tenderness and the existing meteorism rendered its exact definition difficult. Throughout the child continued to take food, in spite of almost constant nausea and the vomiting which was associated with the rigors. On the thirtieth day the patient was again seen by Sir William Broadbent. It was decided that, inasmuch as the symptoms suggested the existence of an abscess or abscesses in the liver, an exploratory incision should be made into the abdomen. This incision I carried out on the following day, Oct. 17th—i.e., thirty-one days after the occurrence of the first symptoms. The child now looked miserably ill; she was much emaciated and very prostrate, the forehead was wrinkled, and she appeared to be in a state of unceasing anxiety. The pain was complained of as being "all over," but the only place where tenderness was very marked was in the region of the liver. The abdomen was still distended and uniformly tympanitic. Nothing abnormal could be felt in the right iliac region. I made an incision in the right semilunar line, commencing it first below the costal margin. The intestine was moderately distended with gas, the distension being notably in the coils of the lesser bowel. There was no peritonitis and no ascites, and at no part within the abdomen did I encounter any adhesions, with the exception of a few about the upper part of the cæcum. The cæcum itself presented to the touch nothing abnormal; the appendix was normal and freely movable. The gall-bladder exhibited no morbid changes and contained about half an ounce of bile. The liver was remarkable; it was considerably and evenly enlarged. It projected at once into the wound and extended an inch and a half or more below the margins of the costal cartilages. So far as its surface could be examined no adhesions were discovered. It was normal in colour and felt to the touch almost as soft as a lung. This loss of its normal firmness was very striking. All that part of the surface of the liver which was exposed by the operation was dotted over with minute yellow specks. They were perfectly round and were comparable in size to the holes made in paper by the prick of an ordinary pin. They were to be seen, but not to be felt. I roughly marked out a square inch on the upper surface of the liver and counted three of these little specks within the space defined. They were pretty evenly distributed. I examined, so far as was possible, the region of the fissure of the portal vein, but did not note anything peculiar. I omitted to make an examination through the foramen of Winslow. I made no attempt to inspect the main mesenteric vessels; such inspection would have been almost impossible. There was no evidence of tuberculous disease in any part. The abdominal wound was closed in the usual way. The patient's recovery was rapid and uninterrupted. By the evening of the day of the operation she was already much relieved. The pain went, and the tenderness disappeared. She had no more rigors. The nausea and sickness ceased, the meteorism disappeared, and the bowels became regular. The temperature, however, remained high for some time. For the first twelve days after the operation it ranged between 99·2° and 103°, but the chart ceased to exhibit the abrupt up-and-down movement. For the next twelve days it ranged between 99° and 102°, the mean being about 100°. After the twenty-sixth day from the date of the operation the temperature remained normal. The child has kept in most excellent health ever since and has had no abdominal symptoms of any kind. At the present time—some eighteen months after her illness—she is in sound health, has grown considerably, and has become stouter than she was before she was seized with the last attack of typhlitis.

Remarks.—The case was one evidently of typhlitis or perityphlitis followed by pylephlebitis. It may be here stated that the child had never had ague and had never lived in a malarious district. Her parents, who had come over from Canada on hearing of her illness, gave precise information upon this point. Quinine had no effect upon either the rigors or the fever. The case is of interest, in the first place, as affording evidence that all cases of perityphlitis do not depend upon mischief in the appendix, and that even when there are repeated attacks that little process may not be concerned in them. There is little doubt but that the pathogenesis of the present attack was as follows. There had been constipation and the eating of a large quantity of indigestible food. An accumulation formed in the cæcum and, partly by pressure, partly by chemical and bacteriological irritation, induced a (so-called) stercoral ulcer. This ulceration of the bowel would allow the bacterium coli commune to reach the peritoneum and, by exciting some peritonitis, to lead to the phenomena of perityphlitis. It is well known that ulceration of the appendix may lead to all the symptoms of perityphlitis without there being any visible perforation or gangrene. Indeed, in the exudation upon the surface of an apparently sound appendix containing a concretion the bacterium coli commune has been found. The term "typhlitis" has little claim to be allowed to exist, but such a case as the one under discussion affords some apology for its occasional use. It is needless to say that in those examples of perityphlitis which depend distinctly upon the appendix constipation and irregularities in diet are often the immediate causes of an attack, and that the patient appears to be able to ward off a relapse by attention to his bowels and care in the choice of his food. In the present instance, however, the perfectly normal condition of the appendix and of its mesentery must exempt that little process from complicity in the illdoings which surrounded it. That genuine typhlitis or perityphlitis (independently of mischief in the appendix) is very rare has been amply demonstrated, but such a case as the one just related affords evidence that it actually has an existence. It would appear that in this young girl there was more widespread ulceration of the colon in the later period of the attack, as shown by the diarrhœa, the tenderness of the abdomen, and the large quantity of mucus which was passed. The term "pylephlebitis" is applied to phlebitis of the portal vein or its main tributaries, thrombosis of the affected vessels being of necessity associated therewith. Very good systematic accounts of this disease have been given by Dr. Bartholow in "Pepper's System of Practical Medicine,"[1] and by Dr. Chauffard in the "Traité de Médecine," edited by MM. Charcot, Bouchard, and Brissaud.[2] These accounts differ in no material respect. Two forms of pylephlebitis are recognised—the adhesive and the suppurative. In the adhesive form the affected veins show the phenomena of simple thrombosis. The causes given are compression of the portal vein by cirrhosis, tumour or gumma of the liver, perihepatitis, sub-hepatic peritonitis, and ulcer of the alimentary canal. The chief symptoms are pain over the liver, ascites of a very high grade, distension of the superficial abdominal veins, enlargement of the spleen, and passive congestion of the gastro-intestinal mucous membrane, leading to vomiting (possibly with hæmatemesis) and to diarrhœa, in which blood may be noticed in the motions; there is usually no jaundice. The symptoms may persist for weeks or even for several months; "but a fatal termination," writes Dr. Bartholow, "is, sooner or later, inevitable in all cases." I have met with one case, however, of adhesive pylephlebitis which is an exception to this formidable prognosis. The patient was under the care of my friend Mr. Boyter Johnson, and I had the opportunity of seeing him, at frequent intervals, for many months. He was examined also by Dr. Ralfe and Dr. John Anderson. The patient, aged twenty-two, was an officer in the army. In November, 1890, when in India, he had dysentery. This was followed in thirty days by symptoms which were ascribed first to peritonitis and then to abscess of the liver. He had considerable ascites, much pain over the liver, any vomiting, with (later on) occasional hæmatemesis and diarrhœa with bloody stools. The liver was enlarged, and in February, 1891, the spleen was described as being "double its size." There was fever throughout, with occasional rigors. He went to Australia in that month, and in June the greatld distended abdomen was tapped. This was followed by a laparotomy, in the course of which the gall-bladder was unfortunately opened and a biliary fistula was produced. The

[1] Vol. ii., p. 1095. Philadelphia, 1885.
[2] Vol. iii. Paris, 1892.

liver was seen to be normal. Between June and November the abdomen was tapped eight times. The largest amount removed was five quarts. In November the patient came to England. He was then much emaciated, the ascites was considerable, and the distension of the superficial veins of the abdomen reached a degree I have never seen equalled. There was never any jaundice. The biliary fistula was still active. Under a treatment which consisted in the main of absolute rest in bed, a suitable diet, and massage the patient made a perfect recovery; the fistula closed, the ascites vanished, and in September, 1892, the patient rejoined his regiment.

The suppurative form of pylephlebitis is said to be most commonly due to ulceration and suppuration of some part of the intestinal tube, and to most commonly lead to multiple abscesses of the liver. Typhlitis and ulcers of the rectum appear to have been the starting points in most of the cases. To follow Dr. Bartholow's account, the inflammatory or ulcerative action extends to and involves the walls of the veins. Coagulation of the blood in the vessel ensues, and the clot undergoes a series of changes resulting in the formation of emboli, which, carried into the main current, are subsequently lodged in the hepatic capillaries. The following are the symptoms described. The onset of the inflammation of the vein is announced by a rigor or chill. When the liver becomes involved there is pain, which is usually complained of in the right hypochondriac and epigastric regions. The pain is accompanied by a well-localised tenderness on pressure. "The fever succeeding the chill is decided and in some cases may attain to extraordinary height. The fever intermits or remits with a more or less profuse perspiration. The febrile phenomena are similar in their objective expression to malarial fever, but there is an important difference in respect to the periods of recurrence of the chills. The paroxysms are very irregular as to time; there may be a daily seizure at different hours, or there may be several chills on the same day; in other words, the paroxysms have the pyæmic characteristics rather than the malarial. After a time the intermittent phenomenon ceases and there occurs a remission merely, the exacerbation being preceded by chilliness and succeeded by sweating. The sweats are characteristically profuse and exhausting.....The maxima may be from 103° to 105° or even to 106°. When the pain and chill come on, disturbances of the digestive organs ensue.....The appetite is lost, the stomach becomes irritable, and vomiting is a usual incident. Sometimes the disgust for food is extreme, and the nausea and vomiting are almost incessant. The vomited matters consist of a watery mucus mixed with thin bile after a time, and now and then of a bloody mucus. ..... Diarrhœa is a usual symptom, and three-fourths of the cases of pylephlebitis are free from jaundice." Dr. Bartholow concludes by stating that dilatation of the superficial veins of the abdomen is rare and that an enlargement of the liver is to be noted when the formation of abscesses occurs. He adds that the disease ends fatally in from two weeks to three months. With the exception of the prognosis, the account given in the two text-books named might have been drawn from the case I have now recorded. In no single particular are the clinical phenomena observed and the systematised description at variance. I assume that the thrombosis involved some considerable portion of the superior mesenteric vein. It is not necessary to conclude that the clot extended into the trunk of the portal vein; indeed, there is substantial evidence against that possibility. It is clear that fragments of the softened clot were carried into the portal circulation and produced the numerous yellow foci with which the liver was dotted. As to whether the term "abscess" should be applied to these little specks is open to question. It may be surmised that in each minute nodule there would have been found a colony of the bacterium coli commune. In a few cases of operation for relapsing typhlitis I have found outside the cæcum a not inconsiderable quantity of custard-like matter, which was certainly neither pus nor a product of the inspissation of pus. That it was an inflammatory product was evident, and that the colon bacillus had been concerned in its development was probable. I mention this in order to support the impression that the colon bacillus, although pyogenic, is capable of producing an inflammatory exudation which, in its physical characters, falls short of actual pus. That the little foci in the liver would have led to abscess in the course of time there is, I imagine, little doubt; and if the nomenclature in vogue be followed I assume that no other term can be applied to the present case than that of "suppurative pylephlebitis." In what way the progress of the case was affected by the laparotomy it is impossible to say. The curative effect of a simple incision into the abdomen, which is often little short of miraculous, has yet to be explained. It has been shown that in the treatment of the ascitic form of tuberculous peritonitis the best results have followed a mere cut into the peritoneal cavity with evacuation of the fluid, but without either irrigation or drainage. Dr. William White, in his very admirable monograph on the "Curative Effect of Operations per se," has collected a remarkable series of cases, in which, quite unexpectedly, a vast improvement in the patient's state or a complete cure of the disorder has attended a simple exploratory incision. In many instances large solid tumours have disappeared or have undergone an astounding diminution. I have recently had under my care in the London Hospital a young man who had a large solid tumour in the left side of the abdomen, which extended from the groin to the costal cartilages and from the loin to beyond the median line. An exploratory incision proved it to be sarcomatous. The abdomen was closed, and the tumour forthwith began to shrink until it resolved itself into two nodules, one the size of an adult's fist and the other that of a large hen's egg. The wasting continued, and fresh growths appeared outside the abdomen, but the improvement within the cavity was maintained.

In the Lettsomian lectures on Peritonitis I have ventured to suggest that these and other not less remarkable results of simple incision may depend upon an alteration brought about in the state of pressure within the abdomen, whereby the circulation is amended and the conditions associated with absorption are substantially modified. Precise evidence in support of this suggestion is, I must confess, still wanting.

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THE QUANTITATIVE DETERMINATION OF COLOUR VISION.

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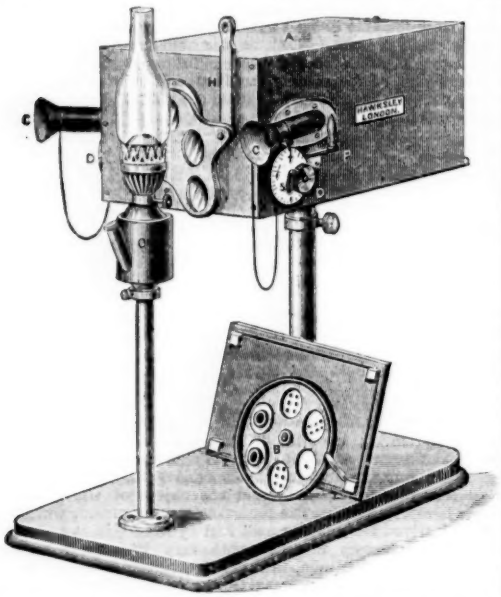
IT is well known that the condition commonly called colour blindness, whether congenital, and coextensive with the field of vision, or acquired and limited to a portion of the field, may be either complete or incomplete; that is to say, that the subject of the defect may be totally insensitive to all colours or to some colours, or that he may be sensitive to them in a degree which does not attain the normal acuteness of perception. I have long thought it desirable that the degrees of acuteness of colour vision should be measured and expressed numerically, just as is done with the degrees of acuteness of form vision; and the object of the present paper is to bring before the profession an instrument which I have contrived for this purpose, and by which, as it appears to me, satisfactory measurements may be obtained. In examining, say 500 men, in order to ascertain whether they are fit for employment on railways or in navigation, the examiner will find a great majority with colour sense of normal acuteness, and a minority, usually equal to about 2 or 3 per cent. of the whole, whom it will at once be his duty to reject. He will find another minority concerning whom he may entertain reasonable doubt. Their colour sense is defective, but is it so defective as to disqualify them for the situations which they seek? That this question is a real and practical one may be shown by the example of a young gentleman lately under my observation who was partially blind for green. He was liable to error when dealing with diluted colours, but not when dealing with full colours. He was rejected on the score of defective colour vision for one branch of military service, and was immediately afterwards accepted for another branch in which colour vision was certainly quite as much required as in the former. My object is to render some standard attainable, so that authorities, either of the public services or of railways, may be able to say "We require colour vision of such or such a degree of acuteness," and so that examiners may be able to determine whether this standard of acuteness is reached or exceeded. Again, in acquired colour blindness, which, as in the ordinary forms of toxic amblyopia, is generally localised in the centre of the field, it is important to be able to estimate the degree from time to time, so as to obtain evidence of improvement or of retrogression. The "colour sense measurer" which I have

contrived for the fulfilment of these purposes was suggested to me by the "Lichtsinnmesser" of Professor Förster, of which it may be described as a modification. It was exhibited in a less complete form in 1892 at the conversazione of the Royal Society, and its construction will be readily understood by reference to the accompanying engraving. The instrument consists of an oblong box, 12 in. long, 8 in. wide, and 7 in. deep, raised upon an adjustable pillar to a convenient height, so as to be nearly on a level with the eyes of a seated person. In front of the box is an aperture for the admission of light, which may be furnished by the lamp O or by an electric glow lamp placed upon the same stand, either being inclosed, when in use, by a semicircular metal screen not shown in the drawing. The aperture is filled by a convex lens which has the light in its focus, so that the rays entering the box are rendered parallel; and this lens is covered by a piece of ground glass. Immediately within the aperture are two metal screens, governed by the milled heads D D, and which, as they approach or recede from one another, diminish or enlarge the interval between them through which light finds entrance to the interior. This interval may be completely closed, or may be enlarged to 1500 square millimetres, but it always retains its square outline, and its magnitude can be read off by means of the gradations upon the milled heads. The handle H controls a screen with three openings, any one of which may be interposed between the box and



the light. One of these openings is vacant, another is filled with peacock-blue glass, another with red glass, so that the colour of the light admitted into the box can be varied; C C are two sliding tubes, directed towards the centre of the back of the box, for the purpose of looking into its interior. The eye pieces carry lenses for the presbyopic, which may be removed at pleasure, and, when not in use, the tubes can be stopped by plugs attached to the cords so as not to admit light into the interior. P is a spring catch, which can be thrown in or out of gear as required, and which, when in gear, prevents the milled heads from being turned back so as to diminish the light aperture, although leaving them free to move for its enlargement. When the catch is out of gear they can be turned either way with equal facility. The test objects are placed on the back of the box, which is shown detached and leaning against the main pillar of the instrument. It carries a revolving disc, B, on which the objects are so arranged that any one of them can be brought into the direct line of sight. Some of the objects are opaque, and are intended to be looked at through the tubes; whilst others are translucent. For the latter, the tubes are stopped by the plugs, and the person tested stands in such a position as to look at the back of the box from outside, and at a distance varying with the size of the object employed. As translucent objects, I use metal discs, each having six perforations arranged in two vertical rows of three, and covered by two or three slips of red or green glass, so as to display dots of red and green light variously grouped and arranged. For opaque objects I use cardboard discs, either white or black, some of them carrying groups of dots of different colours, some of them carrying a central dot only. These opaque objects can be made at home in any number or variety and exchanged at pleasure. The groups of dots are more convenient for measuring the degree of congenital incomplete colour vision, the single dots for acquired central defect. For the latter purpose two colours are sufficient—green and red, both of them much diluted with white. For the groups it is well to have a diluted red and a diluted green, and to make up the group with confusion colours. In order to use the instrument the examiner, whose own colour sense must be normal, should take his own vision as the standard, because I have found it practically impossible to obtain a standard lamp which will never vary. The light aperture being closed, the catch, P, put into gear, and the lamp lighted, the examiner brings an opaque object into view, and, himself looking through one of the tubes, directs the person tested to look through the other and to turn the milled head slowly until he sees something, when he is to stop and describe the object. He will probably first say that he sees a group of dots or a single dot, the former all of the same colour, the latter of uncertain colour, and he is directed to go on turning until he can be more definite. As the opening enlarges and more light falls upon the object he will at length, if only incompletely colour blind, be able to describe it accurately, and then the degree of his defect is determined by the magnitude of the light aperture which he requires for this purpose. With a small allowance for variations in the power of the lamp, it will be found that a person of normal vision is able to describe all the objects, naming the colours and their arrangement, with a light aperture of four square millimetres, while in individual cases of incomplete defect I have found the aperture required range from sixteen to eighty square millimetres, thus indicating from a fourth to a twentieth of normal acuteness of colour sense. Moreover, in the progress of recovery from toxic amblyopia I have found progressive diminution of the magnitude of the aperture required to show the colour of the central spot. I am disposed to think that this instrument is calculated to afford data of considerable value in relation to cases of central colour amblyopia, and that it will repay anyone with sufficient opportunities who will devote to it the time necessary for the purposes of an extended research. My own withdrawal from active hospital work deprives me of the means of conducting such a research on my own account, and all I can now do is to offer the instrument to the profession. It has been made for me by Mr. Hawksley, to whom I am much indebted for many valuable suggestions in relation to its construction.

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NOTES OF TWO CASES OF THE BRAUN-LOSSEN OPERATION FOR TRIGEMINAL NEURALGIA.

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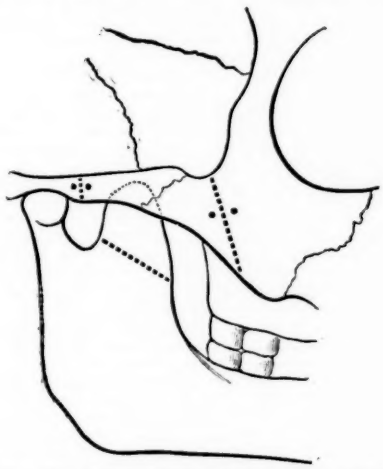
IN my Lettsomian Lectures on Trigeminal Neuralgia, delivered in January, 1892, I stated that, although I had not attempted the Braun-Lossen operation on the living subject, I considered it a most direct and valuable method of reaching the second division of the nerve at the foramen rotundum. The two cases detailed below are the only ones in which I have since had an opportunity of carrying out this plan of treatment; but, of course, it remains to be seen whether the immunity from suffering thus attained will be permanent.

CASE 1.—A man fifty-nine years of age was admitted into King's College Hospital under my care on Nov. 7th, 1893, complaining of very severe paroxysmal neuralgia on the right side of his face. He was married and had always enjoyed good health. As a rule he smoked about four ounces of tobacco a week; he was accustomed to take a somewhat large quantity of alcohol. The commencement of his neuralgic symptoms dated

back to about eighteen years previously, when he was seized whilst at work ploughing with what he considered as a severe toothache on the right side of the face. Two teeth were then extracted, but no relief was obtained. Since that time the pain continued more or less constantly, except during dry or frosty weather, when he was comparatively easy. During the previous eight years he had been three times an inpatient of the Leeds Infirmary, where he had not only the inferior dental nerve stretched and divided, but also the trunk of the third division excised as it emerged from the foramen ovale. The particulars of the former operation have been published by Mr. Mayo Robson.[1] On admission to hospital the patient, a stout, powerful-looking man, was evidently suffering severely, having frequent paroxysms of pain which kept him awake at night; they could be elicited by pressure or any disturbing cause. During an attack the right side of the face and eyelid twitched violently, and the right side of the mouth was drawn up; he seized hold of the side of the face with both hands, and exerted considerable pressure with his fingers, thus relieving the pain a little. The right side of his face was slightly swollen and redder than the other, and the scars of the former operations were evident. There was an area of hyperæsthesia extending from the right zygomatic arch above to the ramus of the jaw below, and a portion of this area was exquisitely tender. The pain was described as of a stabbing character, commencing in the lower jaw about one inch external to the symphysis and coursing upwards in a semicircular direction to the outer angle of the orbit. Pressure over the infra-



orbital and mental foramina readily induced an attack; and occasionally movement of the tongue, as in talking, swallowing, and protrusion of the organ, caused pain in the right half. All the molar teeth on the right side had been previously extracted. The urine was normal. The patient was seen in consultation with Dr. Ferrier, and it was agreed to attack both the second and third divisions at their points of emergence from the skull. On Nov. 14th the head having been previously shaved and purified with carbolic lotion (1 in 20), an incision was made, commencing at the external angular process of the frontal bone, passing backwards and downwards just in front of the ear over the angle of the jaw, and turning forwards for a distance of an inch and a half on to the cheek. The semicircular flap thus marked out was dissected forwards, the integument and subcutaneous fat being alone raised, and held across the face by a temporary suture to the upper lip. A transverse incision was then made along the zygoma down to the bone, from which the periosteum was cleared by a rake-shaped raspatory. Two holes were made with an electric drill at each end of the bony arch sufficiently large to carry silver wire, and the bone was then divided between them by saw and cutting pliers (as indicated in the accompanying woodcut). The zygoma could now be detached and turned down, together with the masseter muscle, thus opening up the temporal fossa. The mouth was then partly opened by means of a gag, which had the effect of displacing the temporal tendon slightly backwards, and this was increased by means of a retractor, the spheno-maxillary fissure being thereby laid bare. The tubercle at the junction of the great wing of the sphenoid and of the outer pterygoid process was clearly defined, and was chiselled away so as to enlarge the fissure and give more room for the introduction of a strabismus hook, on which the superior maxillary nerve was hooked up just as it emerged from the foramen rotundum. The internal maxillary artery was not met with, having been probably divided at the previous operation; but although some venous bleeding occurred it was readily controlled by sponge pressure The nerve was divided close to the foramen rotundum and again at its entrance into the infra-orbital canal, and about a centimetre of its substance was removed, but Meckel's ganglion was not clearly made out. The foramen ovale was now sought for by dividing the deeper fibres of the temporal muscle, but it was not readily reached owing to the great depth at which it was placed. All the structures passing out of it were divided, the bony margins themselves being gouged away to ensure complete interruption in the continuity of the nerve trunk. Owing to the former interference with the structures the tissues were much matted together in this region, and it was impossible to recognise the trunk of the third division. The zygoma was then replaced and kept in position by fine silver wire sutures passed through the holes previously bored at each end, and the wound was closed by a continuous suture, a drainage-tube being inserted at the upper part for forty-eight hours. A dressing of cyanide gauze and salicylic wool was applied, the right eye being also carefully bandaged. On the night of the operation a small injection of morphia was given and the outer dressings changed as some blood had oozed through. On Nov. 15th it is noted that the patient had slept well, not experiencing a single paroxysm of neuralgia, and no pain at all worth speaking about. There was some slight twitching of the right side of the face. On Nov. 16th the wound was dressed and the drainage-tube was removed. There was complete loss of tactile sensation over the area supplied by the second and third divisions of the trigeminal; the right side of the tongue was anæsthetic anteriorly. The patient could not distinguish between salt, sugar, or quinine when any one of these was placed on it, but over the posterior half taste and touch were unimpaired. Some weakness of the orbicularis palpebrarum was noticed, as also of the muscles around the angle of the mouth on the right side, but all muscular twitching had ceased. From this date an uninterrupted recovery ensued. The temperature never ranged above 99° F.; the stitches were removed on the seventh day, and the wound was then practically healed. He left the hospital on Dec. 5th, having been entirely free from pain for the fortnight following the operation; the muscular weakness had slightly improved.

CASE 2.—A gentleman sixty-five years of age was seen by me in consultation with Dr. Ferrier and Dr. Sheldon of Nottinghill in October last complaining of paroxysmal neuralgia affecting the left side of the face and head. The pain had commenced suddenly about seven years ago in the temple, and was so severe as to cause him to jump up and writhe in agony. He had all the teeth, some of which were decayed, removed from the upper jaw, but in spite of this the pain persisted and affected, in addition, the whole of the superior maxillary region. Eating and speaking were both sufficient to induce an attack. In February, 1891, when first seen by Dr. Ferrier, the pain appeared to radiate from the region of the infra-orbital foramen, and the patient never passed a day or night without one or more attacks. He is stated at that time to have been a fresh, healthy-looking man, whose general condition was satisfactory; the appetite was good, as also the digestion, and the bowels were regular, although on examination the tongue was slightly furred. His habits were regular. The reflexes were distinct and not exaggerated. There was no tenderness on pressure over any branch of the fifth nerve, but during the examination of the patient one or two attacks of pain occurred. A mixture, containing five grains each of iodide and salicylate of soda and antipyrin, was ordered, and the application of the constant current (from five to ten cells) to the face was recommended. This, however, seems to have been of little use, for in October, 1893, the patient returned with all the former symptoms exaggerated, although he had had a slight respite from pain about six months previously. There was no tenderness on pressure over the infra-orbital and malar regions or along the gum, but he invariably referred the starting point of the pain to the zygomatic process of the malar bone (subcutaneus mali

[1] Brit. Med. Jour., Nov. 18th, 1893.

branch). His general health was still good. It was decided to offer the patient the prospect of relief by surgical interference, to which he readily consented. On Oct. 24th the patient was anæsthetised by Dr. Dudley Buxton and the operation was performed as described above, except that the internal maxillary artery, not having been previously interfered with, was seen as it entered the pterygo-maxillary fissure and was divided between two ligatures. The tubercle on the great wing of the sphenoid having been chiselled away, the inferior maxillary nerve was readily hooked up and Meckel's ganglion was clearly demonstrated. Three-quarters of an inch of the trunk of the nerve was excised, including the ganglion, and there was but little hæmorrhage during the proceeding. The foramen ovale was not dealt with in this case. An uninterrupted recovery followed, the temperature never rising above the normal and primary union occurring.

About the middle of February, I heard from Case 1 and saw Case 2, and they were then both free from pain and were very grateful for the relief they have obtained. The scar of the operation is scarcely visible, and there is no impairment in the mobility of the jaws. The cheek still remains numb and anæsthetic. I would lay great stress on the method of reflecting the skin-flap, which is a manifest advantage, not only in facilitating the deep dissection, but also in obviating any subsequent deformity of the face through the presence of an unsightly and often depressed cicatrix. Lastly, it must be remembered that, providing all proper precautions are taken at the time of operation, there is no risk of subsequent sepsis, inasmuch as the antrum is left untouched and the wound is well away from such sources of infection as the nose and mouth.

Harley-street, W.

HEMIPLEGIA DURING PERFLATION OF AN EMPYEMA CAVITY:

WITH A SUGGESTION AS TO THE CAUSE OF THE ACCIDENT.

BY THEODORE FISHER, M.D. LOND.,
REGISTRAR TO THE BRISTOL GENERAL HOSPITAL.

IT seems to be necessary to apologise for publishing a case in which the accident of hemiplegia occurred during the treatment of empyema, since that complication has been almost entirely relegated to the past by the abandonment of the practice of "washing out"; cases, however, arise from time to time in which the offensive character of the discharge necessitates the adoption of irrigation with an antiseptic fluid, and the following case is brought forward because it seems to suggest that the accident may easily be prevented. Here hemiplegia occurred, not during washing out, but while air laden with eucalyptus vapour was being puffed in. Fluid used for irrigation of the cavity is always warm, while the air in this case was at the temperature of the surrounding atmosphere, or possibly colder, since in taking up eucalyptus vapour it may have become chilled. This suggests that the application of cold to the pleural surface may be a factor in the production of the accident, and that in those cases that have occurred during washing out the fluid may have been allowed to fall below that of the temperature of the body. The following case occurred at the Infirmary, East Dulwich-grove, S.E., and I have to thank Dr. Gross, late medical superintendent, for permission to publish it.

A man fifty-five years of age was admitted into the infirmary on Jan. 13th, 1891, with signs of fluid in the left side of the chest. On the 15th he was aspirated, and the cavity was found to contain pus. On Feb. 3rd the empyema was opened in the ninth space in the post-axillary line. On the 23rd the cavity was washed out by Dr. Gross (it had been washed out on several previous occasions), and afterwards some air laden with eucalyptus vapour was puffed in. The following are notes by Dr. C. A. Kent, who was assisting Dr. Gross: "After washing out the chest with a weak solution of iodine water a few cubic centimetres of eucalyptus vapour were blown in and allowed to escape. The patient suddenly complained of giddiness, turned very pale, and fell back apparently dead. Pulse weak and very irregular. After artificial respiration had been kept up for a few minutes respiration recommenced and the pulse became good. He was semi-unconscious for two hours after.—24th: This morning the right arm and to a less extent the right leg are paralysed. He is from time to time fairly sensible. He says, 'Oh, dear!' The right arm becomes rigid when the patient tries to raise himself with the left. He is very restless and irritable. No facial paralysis can be made out. The pupils are equal, medium, and sluggish. The knee-jerks are brisk, the right being more so than the left. The plantar reflexes are not well marked. There is no clonus. The patient sleeps with the right eye open.—25th; The patient speaks fairly well, using numerous words. He still seems dazed. His sister-in-law came here to see him yesterday, but he did not recognise her, though he could say a few words. He has regained considerable power in arm and leg.—26th: The patient now seems almost as well as before the attack, although he is slightly dazed. He says that he remembers nothing. He moves the right hand and arm well, but still weak." The patient perfectly recovered, and left the infirmary with the wound healed in the course of a few weeks.

I have suggested that chilling of the pleural surface may possibly be a factor in the causation of hemiplegia. Before giving reasons for that supposition the various views of the pathology of the accident may be referred to. When the accident first attracted attention the detachment of a venous thrombus during the washing out of the empyema cavity was supposed to occasion embolism of a cerebral artery and give rise to the alarming symptoms and hemiplegia. In fatal cases, however, no such embolus was found. It was then suggested that the hemiplegia was reflex, due to some obscure inhibition of the action of one half of the cerebrum. Against that view it was urged that the pleural surface could not be sensitive since it had become transformed into the wall of an abscess cavity. M. Desplats,[1] after reporting a case, suggested that, while in some the symptoms might be reflex, in others they were probably due to the toxic effect of the absorbed antiseptic, while in still others they were merely the manifestation of epilepsy or of uræmia. If epilepsy explains any cases they must be few in number, since, although epileptiform convulsions may be the main feature of this accident, the termination generally either in death or in hemiplegia distinguishes them from the convulsions of that disease. Uræmia is more closely simulated; both hemiplegia and epileptiform convulsions may be present, the latter being sometimes followed by rapid death. But in the accident under notice failure of the pulse and respiration at the onset are marked features and give evidence that although there is some resemblance to uræmia, there are small, yet obvious, differences. The invariable suddenness of onset during the washing out is also against the acceptance of uræmia as the explanation.

It can hardly be supposed that the antiseptic is responsible for the hemiplegia, since that used had varied and poisoning by the commonest antiseptics, does not give rise to such symptoms. Nor is it likely that these poisons would act mainly upon one cerebral hemisphere. It has been already mentioned that embolus is negatived as a cause for hemiplegia, since in fatal cases no emboli have been found. If, therefore, one rejects emboli, epilepsy, uræmia, and poisoning by antiseptics, the only theory left is that the hemiplegia is due to shock. It certainly seems strange that a thickened pleural surface covered with abundant, partially organised exudation, should be able to transmit any nervous impulses to the central nervous system, but although the surface may not be sensitive to ordinary irritation, it cannot be said that a chilling of the wide vascular surface may not be capable of producing some mysterious effect upon the cerebral circulation. In the above case a few cubic centimetres of air laden with eucalyptus vapour had been puffed in when the accident occurred. Mechanical irritation by previous washing out had been harmless. It seems, therefore, reasonable to suppose that the effect of the air was not harmful from direct irritation, but indirectly through the production if cold. Possibly in every case in which the accident has occurred the antiseptic fluid has been allowed to fall below the temperature of the body. This would explain why the accident does not usually occur until the treatment has been carried on for some time. When the treatment is first commenced more attention would probably be paid to the temperature of the fluid than that at some later period in which the patient was becoming convalescent. A case referred to in THE LANCET[2] tends to support this view of the effect of cold. In that case 0·8 c.c. of a 3 per cent. solution of peroxide of hydrogen had been injected, when the respiration became oppressed, clonic

[1] La Semaine Médicale, Sept. 23rd, 1885, p. 320.
[2] THE LANCET, July 31st, 1886.

convulsions occurred in the right arm, the head turned to the left, and the patient died in ten minutes. A solution of peroxide of hydrogen must have been injected cold, and the quantity was too small to have had a mechanical effect. The value of the evidence it affords is, however, somewhat diminished by the fact that the injection was not the first but the seventh. It must also be admitted that there is one fact that seriously militates against this view of the pathology of the accident. Were the view correct, one would expect the hemiplegia to bear a constant relation to the position of the empyema. Although the hemiplegia is nearly always upon the same side of the body as the empyema, in one case recorded by M. Berbez it was on the opposite side.[3] In the case recorded in this paper the hemiplegia was also, curiously enough, on the opposite side of the body. One is obliged to admit, therefore, that the above view as to the cause of the accident rests upon somewhat insufficient evidence, yet when necessity arises for washing out an empyema cavity it would be well to pay careful attention to the temperature of the fluid.

Clifton, Bristol.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A LARGE QUANTITY OF MORPHIA (TWELVE GRAINS?) TAKEN HYPODERMICALLY WITH SUICIDAL INTENT; RECOVERY.

BY PERCY POPE, M.R.C.S. ENG., L.R.C.P. EDIN.

I THINK the following case of attempted suicide by hypodermic injection of morphia is worthy of record, not from any novelty in the way of treatment, but on account of the enormous dose (estimated at twelve grains) that was taken, and from which recovery ultimately resulted. I was sent for one evening about 11 P.M. to see a servant girl who had "poisoned herself with opium." On seeing her a very few minutes after she had taken the poison I found her to be already stuporous, drowsy, and with her pupils much contracted. I discovered that she had taken some morphia hypodermically, the bottle and syringe being by the bedside. Subsequent inquiries elicited the facts that she had been accustomed to go to the druggist with her master's prescription, who was taking morphia hypodermically under medical advice, and that her knowledge of his taking it in this manner suggested a ready means of self-destruction. The druggist, believing that she had come for the drug on her master's order, had no hesitation in supplying her. She obtained the hypodermic syringe by the same means. On my examining the girl's arm seven recent acupunctures were readily discernible, and she subsequently stated that she had taken six syringefuls of the solution. The syringe was a twenty-minim one, and at least three drachms of the solution were missing from the bottle. There was no sign on the nightdress or bedclothes of any of the solution having been spilt, and only one of the acupunctures was bleeding; I therefore cannot help concluding that 2 drachms (or 12 gr.) of morphia were taken. Unfortunately this can, of course, be only a matter of surmise; but I can assert that I never witnessed such excessive and grave symptoms from morphia poisoning, and I have seen several cases, one other case being that of 4 gr. taken hypodermically by a man who was not a habitual morphia-taker. The usual means were employed to keep the patient alive—viz., atropine (4 gr. in $\frac{1}{5}$ gr. doses were given during twelve hours at short intervals without any result on the pupils), galvanism, wet towels, cold coffee, exercise, artificial respiration, &c. The respiratory centre was affected in far greater degree than the cardiac. Twice during the twelve hours following the administration of the morphia artificial respiration was called for, once for twenty minutes and again for five. Lividity and blueness of the face were constant and pronounced. The iris was contracted to such an extent that the pupil appeared to be quite absent, not even the space of a pin's point being discernible in the muscle, and the eye appeared as if covered entirely by the iris. The conjunctival reflex was absent for some hours, and the eyes appeared glassy and dull. After twelve hours' treatment symptoms of improvement showed themselves, but for no less than thirty-six hours after taking the poison had the treatment to be persevered in at intervals. If the patient was allowed to sleep even after twenty-four hours, the respiration ceased after two or three minutes, and lividity and blueness of the face rapidly supervened. She required constant rousing, and even exercise from time to time, and, as I stated, it was not until thirty-six hours had elapsed that her dangerous symptoms ceased. The girl's age was nineteen, and she had never to her knowledge taken morphia previously in any form. The solution was of B.P. strength.

Fulham.

[3] Revue de Médecine, June, 1886, p. 548. Practitioner, vol. ii., p. 366.

NOTE OF A SIMPLE APPLIANCE IN CONNEXION WITH BLADDER SURGERY.

BY THOS. ANNANDALE, F.R.C.S. EDIN.,
REGIUS PROFESSOR OF CLINICAL SURGERY, UNIVERSITY OF EDINBURGH.

WHEN after the operation of perineal lithotomy or cystotomy it is thought advisable to drain the bladder for some time the connexion of a length of indiarubber tubing to the stiffer tube secured in the perineal wound is useful, as it helps to keep the bed dry by carrying the urine into a receptacle at the side of or under the bed. I (and I have no doubt other surgeons) have found that this indiarubber tube is very apt to be compressed by the bedclothes or limbs of the patient, and the free flow of the urine is consequently interfered with. Having recently employed the following simple contrivance with a view to prevent any interference with the free action of the tube, I give a brief note of it. This or some similar apparatus may already have been suggested, but I am not aware of it. A piece of lead pipe with a bore 1 in. in diameter and long enough to extend from the perineum to one edge of the bed is surrounded with some soft material, such as a roller of flannel. The indiarubber tube is then passed through the lead pipe, and the latter is placed upon the bed under one or other thigh and arranged so that one end will be opposite the perineum and the other at the edge of the bed. In this way the rubber tube is thoroughly protected from any pressure. The weight of the lead tube will keep it steady, but, if necessary, it can be fixed by means of two or three large safety-pins passed through the under-bedclothes and the flannel roller surrounding the tube. This apparatus may be used in another way—namely, by having it long enough to reach the lower end of the bed. The lead pipe in this method lies between the patient's thighs, and if the head of the bed be slightly raised the "fall" will still further facilitate the free flow of the urine along the indiarubber tube.

Charlotte-square, Edinburgh.

TESTICULAR INJURY.

BY HARRY BURTON, M.R.C.S. ENG., L.S.A., &c.

ON Oct. 2nd, 1892, I was sent for hurriedly to see a man twenty-seven years of age who had met with an accident. On my arrival I found the man lying on a couch surrounded by sympathising friends. The following was the history he gave. Whilst carting manure from a stable to a field one of his horses bolted, going through the gateway. The man tried to get between the gate-post and the cart, and was crushed between the former and the bush of the wheel. He walked to a relative's house (a distance of 200 yards) and awaited my arrival. There were no signs of shock and the only complaint was some degree of pain in the abdomen. I examined him at the seat of the pain, but found no signs of injury. I simply ordered him to go to bed, and was leaving the house when the patient coolly suggested that he thought there was something wrong lower down. Having ordered the women out of the room and then exposed him thoroughly, I was surprised to find the following condition of things. His right testicle had been forced out of the scrotum and hung by the spermatic cord and vessels (which seemed to be uninjured). The scrotum on the left side had a small rent in it (an inch and a half in length), but the testicle was not extruded. Having obtained some carbolic acid (1 in 40),

I bathed the parts well, and then, after great difficulty, succeeded in reducing the testicle. I then sutured both wounds and dressed the parts with wood wool. The wounds healed entirely by first intention. In a week the man walked home and was at his work again in three weeks from the date of injury. The case was remarkable for (1) the entire absence of shock; (2) the absence of pain at the seat of injury; and (3) the short space of time before the parts were entirely healed. I may state that twelve months after his injuries his wife bore a healthy child.

Marple

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

A CASE OF INJURY OF THE LUMBAR SWELLING OF THE SPINAL CORD CAUSED BY A FALL.

(Under the care of Mr. HULKE.)

THIS case is interesting, *inter alia*, on account of the great derangement of sensory function, which continued long after motor paraplegia had almost entirely disappeared, being probably permanent. The motor disturbance very quickly passed off in the right limb, and at six months after the date of the accident the left limb had very nearly, if not quite, regained its full muscular power, whereas at that time anæsthesia in this limb continued almost complete within the area implicated. From their instant occurrence the causal dependence of the spinal symptoms on the fall could not be doubted. That the symptoms were due to compression of the cord by a displaced piece of bone appeared unlikely in the absence of objective signs of fracture and dislocation of vertebræ—an impression confirmed by the progress of the case. They were, therefore, referred to concussion of the cord and hæmorrhage. The chief stress of the motor paraplegia occurring in the left limb indicated the situation of the hæmorrhage to be in the *left* half of the cord, in connexion with which it is noteworthy that the principal incidence of the anæsthesia was also in the *left*, and not in the opposite, limb. The predominance of sensory disorder suggested the grey substance and posterior columns of the cord as the focus of the hæmorrhage; further, the areal distribution of the anæsthesia, together with the suspension of the cremasteric reflex and the insensibility of the penile integument, seemed to place the upward extension of such hæmorrhage as high as the spinal origin of the first lumbar pair of nerves, whilst the abolition of the bladder reflex hinted that it had also a very considerable downward extension.

In the early forenoon of April 12th, 1893, a thick-set, very muscular man—a navvy—at work in an excavation, misjudging his distance from an opening in a stage, stepped backwards and fell heavily through this, a distance of ten or twelve feet, alighting, he thought, "on his bottom." Unable to rise, his mates extricated him and brought him to the hospital. When received into Founder Ward he was found to have motor paraplegia, almost complete in the left lower limb, but not quite so great in the right. He had also anæsthesia of the loins, buttocks, scrotum, and the posterior surfaces of the lower limbs. This was complete in respect of the scrotum, the left buttock, and the back of the left lower limb, but was much less deep on the right side. A posterior area, bounded below by a line taken transversely through the gluteal folds, and above by a line drawn three finger-breadths above the highest point of the iliac crests, "felt quite cold" (it is to be regretted that this depression of surface temperature was estimated by contact of hand only, and not ascertained with a thermometer). He complained of pain in the loins and at the "bottom of the back," but he did not localise this in any particular spot. He was unable to micturate, and as his bladder seemed to be distended a catheter was passed and its contents were drawn off; the urine was not projected from the orifice of the catheter in a stream, but it dripped vertically, showing feebleness or absence of muscular contraction. The urine was clear and normal. The patient was unconscious of the passage of the instrument. The temperature was 98·6° F., the pulse was 68, and the respiration was 16. There was no irregularity of the vertebral spinous processes, and no other local, objective mark of fracture or dislocation of vertebræ was detected. In the evening of the same day no difference of surface temperature in the posterior area, that in the morning had seemed to be "quite cold," was distinguishable; its temperature was now precisely that of the neighbouring parts of the surface. The anæsthesia in the loins had also nearly disappeared. On the 13th there was tegumental sensitiveness in the loins, but the right lower limb appeared to be normal, and the right buttock was distinctly improved. He could also lift the right limb slightly off the mattress, but the motor loss in the left limb continued to be almost complete. He had vomited several times. He was sweating profusely. The temperature was 100°; the pulse was 60, intermittent. Early in the morning of the 14th diarrhœa supervened, the loose motions escaping into the bed; he was not aware of their passage through the anus or that he was lying in them. The tongue was furred and the cheeks were flushed. The temperature was 100·2°, the pulse was 86, and the respiration was 28. The catheter continued to be required (this had been necessary since admission). All reflexes, superficial and deep, were abolished in the left limb. In the course of the following week considerable motor improvement took place in the right limb, and in the left some restoration was noted, so that on the 22nd inst. he could lift this limb off the mattress to a height of six inches measured at the knee. On the 24th the entire left lower limb was œdematously swollen. There was marked tenderness in the course of the common femoral and external iliac vein. He had shiverings. The temperature was 99 4° and the pulse was 80. These symptoms, indicating phlebitis and thrombosis, gradually and very slowly subsided. Early in May, notwithstanding particular care, a sacral bedsore threatened to form, the skin became congested, and a slight amount of puffy swelling of the subcutaneous cellular tissue was present. Fortunately the skin remained unbroken, and resolution occurred. About this time his urine occasionally dribbled away, especially in the night. On May 22nd a red, puffy swelling, suggestive of an early stage of carbuncle, formed on the nape of the neck, and during a week he had considerable fever. This local cellulitis also ended in resolution. On June 20th his general condition had so far improved that he was transferred to a convalescent hospital. At this time the right lower limb had completely regained motor power, and the sensitiveness of its surface was perfect. The left limb had acquired considerable motor power; but its buttock, the posterior and outer surfaces of the thigh, leg, and foot exhibited a nearly complete insensitiveness to touch, to a prick, and to heat and cold.

On Oct. 10th he returned to the Middlesex Hospital, hoping that something more might be done for him. He was unable to dispense with the use of the catheter, and he had some degree of cystitis—probably arising from the neglect of that scrupulous cleanliness of the catheter and the rigid antisepsis enforced during his previous stay in the hospital. In defecation the act of expulsion was efficiently performed, but he was not conscious of the passage of fæces through the anus. The left limb had nearly regained full motor power. It continued to be slightly bulkier than the right, and he said that it swelled when he stood long. The reflexes and also the electric reactions of the muscles of this and of the right limb were reported to be normal by Dr. Wynter (the assistant physician in charge of the electrical department). The temperature of the two limbs at corresponding parts was identical and normal. The integument of the left buttock, the posterior surface of the thigh and leg, the outer ankle and outer border of the foot, also that of the upper and inner surface of the thigh, near its junction with the trunk, and that of the scrotum and penis was insensible to touch, to prick, and to heat and cold.

The question of surgical operation was not seriously discussed in connexion with this case, since the inferred situation of the presumed hæmorrhage was *in* the substance of and not external to the cord, and the treatment consisted merely in the exhibition of opium in doses and at intervals sufficient to procure ease when pain was great, and in the usual precautions against the formation of

bedsore and the occurrence of cystitis. The complications of femoral phlebitis and nuchal cellulitis yielded to the usual local measures.

YORK COUNTY HOSPITAL.

CEREBELLAR TUMOUR; NECROPSY.

(Under the care of Mr. JALLAND.)

THE following account of a case of glio-sarcoma of the cerebellum is of interest, as tumours are not very commonly met with in this situation, and in this case the tumour at the time of death had not attained to a large size. Operation for cerebellar growth has chiefly been directed to the relief of the effects of pressure, and attempts at a more radical treatment have not been very successful, though it is possible that some measure of success may in the future attend treatment of cystic growths. It is certainly advisable to record clinical observations such as these, where the symptoms are not typical of the disease. For the notes of this case we are indebted to Drs. Lendrum and Coles, house surgeons.

A woman was admitted to York County Hospital on Nov. 21st, 1892. The patient had been five years in India, but had not suffered from fever whilst there. She became pregnant and during this period, when returning from India, she suffered from persistent vomiting. She was confined four months before admission to hospital; no abnormal uterine discharge followed. Since the confinement she had become gradually weaker, complaining of pain in the right arm and leg and between the shoulders. Her voice had gradually become more husky, but latterly it had somewhat improved. Since her confinement her sight had gradually failed, until she became absolutely blind, being unable to distinguish light from darkness. The pupils were rather large, and there was no reaction to light. The grasp was feeble in both hands, but it was more noticeable in the right hand. On Nov. 22nd the neck was stiff and on being bent forward great pain was felt in the cervical spinal column. The plantar reflexes were marked and the knee-jerks were absent, but otherwise the sensation was good in the legs; there was no ankle clonus. The optic discs on both sides were very pale and yellowish vessels were distinct, the margin of the discs imperceptibly fading off into a pale retina. In the right optic disc the lowest vein seemed to be large up to a certain point, but then disappeared, and again appeared as a fine streak. Both discs were in the same condition. No patches were to be seen on the retina. No ptosis or paralysis of the recti muscles was present. There was deafness of the right ear, the ticking of a watch not being heard on contact; with the left ear it was heard at a distance of 2½ ft. The tongue was coated over the posterior three-quarters with a white, thick, central fur, the edges and tip being rather raw. The patient took light nourishment fairly well. The memory seemed to be good. Blisters were applied to the temple. Ten grains of iodide of potassium in water were ordered. On Nov. 24th she complained of pain in the left sacro-iliac synchondrosis and pain was felt on pressing the iliac bones. The patient hardly ever winked, and when she did so it was very seldom complete, the eyelids dropping only slightly. There was less power in the right orbicularis palpebræ in ordinary movements, though the eyelids closed tightly when the will was exerted. There was now right conjunctivitis from this paretic condition. During the night of Nov. 27th and on the following day she complained of severe headache, of burning pain through the head and down the neck. She lay with the head low and the neck and spine were held stiff, any attempt to raise or bend them causing great pain. On Nov. 29th the right conjunctiva was anæsthetic, but not the left. On Dec. 2nd there was difficulty in localising parts touched in the right arm and forearm, but not in the left. She could now turn on to one side. Blisters were applied to both temples. The smell and taste were apparently good. The cough was troublesome (tracheal or laryngeal?). On Dec. 22nd the voice was clearer; the cough was weak, as though the patient could not close the glottis at the commencement of expulsion—consequently she had difficulty in getting rid of a copious expectoration. On Dec. 28th she was up on a couch for a time. For some days previously to Jan. 9th, 1893, the patient had been getting very drowsy, sleeping a great part of the day. She had complained also of general pains in the back and limbs. She replied to questions slowly and apparently mental operation was retarded. On Jan. 28th she complained greatly of knife-like pains all down her back and legs. She slept well as a rule. The general condition remained unchanged. On March 10th she was up again on a couch. On April 8th (8 A.M.) it was noted that she was very sleepy and irritable if moved. She spoke a few words indistinctly and refused any food. She had been sick early in the morning. At 11.45 A.M. she vomited without retching. At 12.15 P.M. she took two or three spoonfuls of beef-tea, and was sick soon afterwards. She said a few words. She took no notice of her friends in the afternoon and would not answer them when spoken to. From 2 P.M. to 6 P.M. she was sick three times; she made a peculiar noise after vomiting. The eyes twitched and there was stiffening in the arms. At 7.55 P.M. the breathing became changed; the respiration was very slow, but the pulse was not altered. She had always lain more to the right side until the last two days, when she turned on to the left side. If put on the right side she would go back to the left again. She was deaf on the right side. The breathing seemed to cease three or four minutes before the heart stopped, death taking place at 8.5 P.M.

Necropsy.—On removing the brain a tumour about the size of a small walnut was found situated on the antero-inferior surface of the cerebellum, projecting slightly above the surface. Its surface was somewhat irregular, it was moderately firm in consistence, and in shape it was oval, irregularly so. It was of a greyer colour than the general substance of the cerebellum. The tumour was distinctly localised, but not encapsuled. It occupied a position corresponding to the anterior portion of the right digastric lobe of the cerebellum. It pressed on the right side of the medulla, which showed a slight depression. The right optic tract was only two-thirds the thickness of the left, and was somewhat flattened. On the posterior surface of the petrous portion of the temporal bone, seen from the inside of the skull, there was a general hollowing out of its surface from pressure of the growth. On section the tumour showed in its interior slight hæmorrhages.

Microscopic examination proved the growth to be a glio-sarcoma. The optic tract (right) showed atrophy.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Ruptured Gastric Ulcer successfully treated by Abdominal Section and Suture.—Resection and Immediate Suture of Intestine.

AN ordinary meeting of this society was held on March 13th, the new President, Mr. HUTCHINSON, being in the chair.

Mr. HUTCHINSON, on taking the chair, was invested with the insignia of his office by Dr. Church, the late Senior Vice-President. The new President thanked the Fellows for his election.

A case of Ruptured Gastric Ulcer successfully treated by Abdominal Section and Suture was communicated to the society by Mr. THOMAS H. MORSE of Norwich. The patient, a young woman aged twenty, having symptoms of gastric ulcer, was suddenly seized with violent abdominal pain followed by faintness and vomiting. The pain, which was of a burning character, commenced over the region of the stomach and gradually extended all over the abdomen. Abdominal section was performed nearly five hours after the commencement of the symptoms; the contents of the stomach were found in the peritoneal cavity. The stomach was withdrawn, and a perforation was found on the anterior surface, close to the cardiac orifice. The organ was washed out, and the perforation was closed with Lembert's sutures; the stomach was returned, the peritoneal cavity was washed out, and the wound was united. No food was given by the mouth for sixty hours, and at the end of three weeks the patient was quite well. Mr. Morse had not up to that time seen a record of any other successful case of the kind in this country, though cases had been reported by Drs. Penrose and Dickinson, also by Mr. Gilord, Mr. Barling, and Mr. Warrington Haward.—Mr. BARWELL said he had taken much interest in this subject and had collected a large number of cases—twenty-five in all—and

be had since heard of four others. One of the cases must be excluded from this series, as it was really a case of localised abscess, which was opened and drained. The abscess was no doubt due to the perforation of a gastric ulcer, though the opening into the stomach had already healed at the time of the operation. In one case, reported from abroad, the abdomen was opened from the xiphoid to the umbilicus without finding the perforation; the right rectus was then divided, the lesser omentum scratched through, and a fruitless search was made over the posterior wall of the stomach. The left rectus was then likewise divided by another transverse cut, and an opening as large as a pea was found on the anterior wall of the stomach, near the lesser curvature and the cardiac end. The patient mended slowly, the recovery being jeopardised by subphrenic abscess, localised empyema, and abscess of lung. He thought that certain lessons could be drawn from the recorded cases with regard to matters of detail in the treatment which might lead to success or otherwise. The operation should be performed as soon as possible after the occurrence of the injury. The best position to open the abdomen was some little distance to the left of the middle line, for gastric rupture was commonest nearer the cardiac end. The front wall of the stomach should then be very thoroughly searched, for, though ulcer was commonest behind, yet perforation was rarer there, the usual sequence being gradual perforation of the viscus, with formation of abscess. When there was free gas in the peritoneum a peculiar thrill could be obtained, made up of rapid vibrations, and it was often accompanied by the sudden disappearance of liver dulness. The rupture might easily be concealed by the puckering of the stomach after it had partially emptied itself through the rent. If the operation were performed later, the best guide to the rupture would be the point of chief peritonitis and effusion of lymph. In four cases the site of rupture had been overlooked, being concealed by the exudation. If the perforation could not otherwise be found, the patient might be made to drink coffee or methylene blue solution, in order that by leakage the place of rupture could be betrayed. He did not agree that it was necessary to cut the ulcers away, for they healed as well if tucked in. The careful washing out of the stomach through the rupture was of great advantage. It was wise to eschew antiseptics in washing out the peritoneum, for if these solutions were strong enough to be germicidal they irritated the peritoneum or poisoned the patient, and if they were weak they were futile. He himself had used distilled water for the purpose of flushing out, and the water, if warm, served to abolish the symptoms of collapse; the best temperature was 112° F.—Mr. WARRINGTON HAWARD congratulated Mr. Morse on his correct diagnosis and prompt treatment. When a perforation occurred suddenly into the general cavity of the peritoneum the ulcer would almost certainly be found on the anterior surface of the stomach, those occurring posteriorly mostly forming adhesions. The necessity for prompt action in these cases was great, for the danger became greater the longer the case was left. Not only did the collapse become more profound, but the contents of the stomach were apt to become absorbed by the lymphatics of the diaphragm and, being carried upwards, to cause a basal pleurisy or pleuro-pneumonia. Though the symptoms were usually well marked, yet the diagnosis was not always easily made. Immediately symptoms of basal pleurisy or of pleuro-pneumonia occurred, a careful exploration of the pleura should be undertaken. He was still inclined to think that the incision should be made in the middle line, for the perforation might be situated at any point on the anterior surface. If the ulcer were to be closed by suture, he saw no gain in a preliminary washing out of the stomach, though he attached great importance to the thorough washing out of the peritoneum. Hot water was possibly the best thing for this, and it might, as had been pointed out, be useful in checking the collapse.—Mr. PAGE referred to some cases, of which he gave the following particulars. In his first case the operation was performed forty hours after the perforation had taken place; the opening was firmly closed, but the general invasion of the peritoneal cavity by inflammation rendered cleansing impossible. In the second case the operation was performed eighteen hours after perforation, and he opened the abdomen over the site where the first pain had been felt. The perforated ulcer was close to the cardiac end of the stomach and so far from the surface that he found it practically impossible to close the orifice; the patient lived a few hours only, and afterwards it was found that leakage had taken place. In the third case it was agreed after consultation to defer operation; for there were indications that the peritonitis was purely local. After four days a drainage-tube was passed into a cavity in which there were pus and gastric contents. Afterwards extensive exudation was found between the stomach and the diaphragm, and a second ulcer was found on the very verge of perforation on the posterior wall of the stomach. In a case in which his colleague, Mr. Pepper, had washed out the stomach he had found much difficulty to arise therefrom. He had received from Dr. Maclaren of Carlisle particulars of three cases of gastric ulcer treated by laparotomy, with one recovery. In the first case the perforation had occurred rather less than twelve hours previously, and there was much collapse; the patient died three days later from peritonitis. In the second case the perforation had happened nine hours before, and it did well after operation. In the third case the perforation had occurred four hours previously, and death occurred three days later from suppurative peritonitis. Dr. Maclaren attributed the fatal results to imperfect washing out of the peritoneum.—Dr. LEE DICKINSON said that he had looked through the records of St. George's Hospital for the last half-century and had found accounts of necropsies of about fifty cases of perforated gastric ulcer. In about one-half of these there was a simple unlimited general peritonitis, and in the remainder the peritonitis was more or less circumscribed. The stomach was often in these cases distended and inflated with gas immediately before the perforation occurred, so that the anterior surface of the stomach really became its superior surface, and escape of fluid downwards was prevented by this and by the contraction of the anterior abdominal muscles, so that in the early hours it was limited to the upper part of the abdomen. The disappearance of liver dulness was not constant, for if the extravasation was limited and there was not much gas in the stomach at the time it might not occur for several hours. The posture of the patient at the time of the perforation also had something to do with the situation of the escaped gastric contents.—Mr. GODLEE said that he had seen two cases of ruptured gastric ulcer which led to subphrenic abscess, in which obliteration of liver dulness did not occur. The liver dulness would also be obliterated in other lesions of the intestine, such as rupture of the duodenum or of the transverse colon. He agreed that the operation should be performed as soon as possible. In the only case in which he had operated there was extreme collapse, and perforation had existed for twenty hours. He made the incision in the middle line and was afterwards prepared, if necessary, to prolong it to the left. The ulcer was near the pylorus, and there was no difficulty in sewing it up, though fluid from the stomach escaped while he was at work. The difficulty was to thoroughly wash out the peritoneum.—Dr. PENROSE said that he had seen many of these cases on the post-mortem table and at least twelve during life. The cases which ultimately formed a chronic abscess often exhibited very acute symptoms at the time of the perforation. He thought that most of the ulcers could be reached from the middle line.—Mr. MORSE, in reply, considered that it would be easy to find the site of perforation by squeezing the stomach. If the stomach were first washed out it could be thoroughly emptied, and extravasation was prevented during the first few hours of healing. It was better to go to the left of the middle line, because the cardiac end of the stomach was more fixed than the pyloric. The organ should be drawn entirely outside the abdomen and wrapped up in hot cloths. The tube to wash out the stomach should accurately fit the perforated ulcer, and in flushing the peritoneum afterwards it was well to put in a second tube for the fluid to return by. The success met with would depend upon the time which elapsed between the perforation and operation.

Mr. C. B. LOCKWOOD contributed a paper on a case of Resection and Immediate Suture of Intestine, which had been strangulated for eighty-one hours. This was the first case in which he had had the opportunity of practising resection of intestine damaged by strangulation since he advocated that treatment in a communication to the Royal Medical and Chirurgical Society in 1891 and now printed in their Transactions. The case had a claim to attention because it seemed that none other had been successful after such a long strangulation as eighty-one hours. The patient was a youth seventeen years of age, who was suddenly seized with symptoms of acute intestinal obstruction due to a strangulated inguinal hernia. Taxis had been tried, and kelotomy was performed eighty-one hours after strangulation

had begun. The loop of intestine was rough and macerated, deeply engorged, infiltrated with blood, and gangrenous and perforated at the seat of constriction. About four inches were resected, the ends united by Czerny-Lembert's method, and the wound was drained and closed. An uninterrupted recovery ensued. The reasons for choosing resection in preference to the formation of an artificial anus were given. The former had a smaller mortality, and the latter exposed the patient to: (1) non-relief of the obstruction, (2) spread of the gangrene or ulceration, (3) spread of the septic peritonitis, (4) death from inanition, and (5) a further operation for the closure of the artificial anus. The reasons for choosing the Czerny-Lembert method in preference to methods which required unusual apparatus were stated. Lastly, the factors which conduced to success were mentioned—namely, the care taken to avoid death from shock by the cessation of the anæsthetic, the application of warmth and stimulants and speed in operating, the disinfection of the sac and protection of the peritoneum from infection, and, finally, the absence of intestinal paralysis at the time of operating.—Mr. TREVES congratulated Mr. Lockwood on his case and the result; he doubted, however, whether it was best to perform a primary resection immediately the sac was opened. Mr. Lockwood had stated that the mortality was lower than for the operation of establishing an artificial anus; but, though all the cases of successful primary resection of the intestine had been published, all those of artificial anus had probably not been, and if they had the mortality would probably come out differently. Mr. Lockwood had said that the intestinal obstruction might remain after making the artificial anus, but Travers had demonstrated long ago that the ordinary means employed to overcome this, then as now, would answer admirably if only one secured a complete evacuation of the bowel. The excision, if carried out primarily, was not done in favourable surroundings; it was a plastic operation, and the patient usually was not in a condition to bear this well. In the early stages of strangulation the bacteria in the sac were few and harmless, but when gangrene set in the fluid in the sac became alarmingly powerful in its capability of producing pus. In primary resection one had still to reckon with the possibility of difficulty arising in the part of bowel immediately above the point of suture; besides, there were differences in size and in density in the bowel wall above and below, and the stitches did not, as a rule, hold well. He thought it better to do as little as possible at the time the gangrene was found and to make an artificial anus and leave it for twenty-one days. Cases he had treated in this manner had yielded most successful results, although the skin became much excoriated and the patient might lose flesh. Pains should be taken with the diet, and salol should be administered every day for a fortnight; then the bowel should be resected and the ends united. He was glad to find that the simple method of suture was again recommended and that surgeons were discarding the useless and cumbrous apparatus which had lately been in fashion. A milliner's needle with fine silk was best for the mucous membrane, and the Czerny-Lembert suture as a finish, and two operators could be employed in putting in the stitches at the same time.—Mr. LOCKWOOD, in reply, said that he had collected authentic information as to the results of the old operation. Of forty-four cases treated in the old way only four recovered, after going through extraordinary dangers and perils. The infected sac was cut away at the operation of resection. He admitted that secondary suture, when it was done, was more successful than primary, but it was not resorted to until after the patient had gone through the dangers of non-relief of his obstruction, of septic peritonitis, spreading of the gangrene, and death from inanition if he lived beyond a week or two. The sutures should be placed in healthy intestine and should take a good grip.

CLINICAL SOCIETY OF LONDON.

Cerebral Abscess.—Sequel to Case of Excision of a part of Dislocated Internal Semilunar Fibro-cartilage of the Knee-joint.—Extra-dural Hæmorrhage.—Excision of Perforated Ulcer in a Case of Typhoid Fever.

AN ordinary meeting of this society was held on March 9th, the President, Mr. HULKE, being in the chair.

Mr. MANSELL MOULLIN related a case of Cerebral Abscess in a boy aged fourteen, who came as an out-patient to the London Hospital, complaining of intense headache said to be due to a blow upon the right mastoid region some weeks previously. An abscess was found and opened (superficial to the periosteum), with relief. A week later the boy returned with the same symptoms in an aggravated form, and was admitted. The abscess which had closed up was reopened, and the periosteum was incised, again with relief. Five days later the pain reappeared, with drowsiness, restlessness, and other signs of cerebral pressure. The mastoid antrum was trephined and examined, but nothing was found inside it. It was not washed out, as there was no disease of the ear. After this the boy appeared to be perfectly well for ten days; then all the symptoms returned in an aggravated form, with optic neuritis in addition on the right side. The skull was trephined over the temporo-sphenoidal lobe; no pulsation was detected; the dura was healthy, but bulged upwards, into the wound. A trocar and cannula were inserted in various directions without result. The bone was then removed from over the cerebellum, and an exploration was carried out there with equal want of success. Finally, a few drachms of fluid were drawn off from the descending cornu of the lateral ventricle, through the temporo-sphenoidal lobe, and pulsation returned. Twenty-four hours later the patient died comatose. At the post-mortem examination there was found to be no middle ear disease or inflammation upon the right side of the head or brain. In the left temporo-sphenoidal lobe there was a very old encysted abscess, with some adhesions to the dura mater over it. Nothing else abnormal was found. Attention was directed to the fact that the abscess must have been latent for a very long time and suddenly roused into activity by the blow, and to the peculiar circumstance that the intense pain was three times relieved by a small operation on the right side of the head when the real cause must have been the abscess on the left; and it was pointed out that, in future, relief obtained by washing out a mastoid antrum could not be regarded as evidence that the cause of the pain lay on that side of the head.—The PRESIDENT remarked that cerebral abscess often occurred without any rise of temperature. Mr. Moullin had not stated the evidence on which he relied to prove the absence of ear disease.—Mr. BARKER said that patients' statements could not be relied on to prove the absence of ear discharge, and a careful examination must be made to ascertain this. He had recently seen a man who presented every symptom of cerebral pressure. Both the brain and cerebellum were aspirated, and, though no abscess could be discovered, yet all the symptoms disappeared, and the man became well. That good result might have been due to the lessening of intra-ventricular pressure.—Mr. CLUTTON remarked on the difficulty of discovering pus in the brain, and in his hands the trocar had proved useless. He referred to a case in which he ligatured the internal jugular vein for a lateral sinus thrombosis, probably suppurating. As the symptoms pointed to pus in the brain, he explored both the cerebrum and cerebellum carefully, but without success. The patient died, and at the necropsy abscesses were found both in the temporo-sphenoidal lobe and in the cerebellum. This had happened to others besides himself.—Mr. MANSELL MOULLIN, in reply, said that no indication of middle ear disease was discovered, either during life or after death. He referred to the case of a lad who came into the hospital with hernia cerebri and symptoms of intra-cranial suppuration. The cranial cavity was explored in every direction without success, but after death three weeks later an abscess was found occupying nearly the whole of one of the cerebral hemispheres.

Mr. C. B. LOCKWOOD then gave an account of a case of Excision of a Part of a Dislocated Internal Semilunar Fibro-cartilage of the Knee-joint, adding a description of the result twenty-one months afterwards. He said that, although a fair number of cases of dislocated semilunar fibro-cartilage had been operated upon, there was need of information as to their results, and a report upon cases which had been performed was much needed. Information as to the result nearly two years after the operation was given in the present instance. The patient was an engineer by profession, who had injured the knee at football. Nothing could be felt, but the joint was apt to lock under circumstances which entailed danger to the patient's life. Pain was felt on pressure over the internal semilunar fibro-cartilage, which also seemed to be too movable and had probably been injured. The joint was opened by a vertical incision, and the anterior third of the internal semilunar fibro-cartilage was found to have been torn from all its tibial attachments. It was removed, and the remainder was sewn down to the tibia. The operation

was followed by a slight attack of synovitis, but the patient was up at the end of a fortnight, and a month later he walked thirteen miles. Subsequently, after a game of football, he had an attack of synovitis, but no locking; indeed, the joint had not, he said, locked since the operation and was perfect for wrestling, running, swimming, or bicycling; he was afraid, however, to play tennis or football, because he feared a sudden twist. The case, therefore, ought not to be considered as a perfect cure, although a cure must have occurred in some instances. Mr. Lockwood considered that, as asepsis was easy in the case of the knee, the operation was attended with small risk and very little anxiety.—Mr. HERBERT ALLINGHAM said that he had opened the knee-joint thirty-five times; in twelve cases he had sutured the semilunar cartilage to the tibia, in thirteen he had removed it, in six he had operated for loose cartilages, in four he had merely explored in order to see what was wrong, and in two of these he had discovered that it was osteo-arthritis. Only one case in his series did badly in the sense of having a stiff joint afterwards; all the others did well. In some of the more severe cases of rheumatoid arthritis with symptoms suggestive of loose pieces of cartilage great benefit had resulted from opening the joint, even though nothing had been done beyond this. He preferred the vertical incision; if the cartilage were not too much damaged he sutured it to the periosteum, but if it were very much injured it should be removed. If there was much effusion of blood he drained for forty-eight hours. Recovery in some of the cases was protracted.—Mr. CROFT said that he had read a paper on this subject in March, 1888, describing what he believed to be the first case in which the semilunar cartilage had been designedly cut away. The patient did well.—Mr. MANSELL MOULLIN said that he had twice sutured the semilunar cartilage in place, but in one of the cases, after a lapse of six months, the symptoms were as bad as before; the patient, however, was an acrobat. He had removed the cartilage five times, cutting as much of the cartilage away as he could without unduly disturbing the joint. He was informed by Mr. Bland Sutton that this cartilage represented the rudimentary remains of the attachment of muscles which were now wanting in human beings. As it seemed now to be useless, it was better, when it was injured, to cut it away.—Mr. LOCKWOOD, in reply, said that it was agreed that if the cartilage were only detached to a slight extent it should be sutured to the tibia, but if much torn or damaged it was best removed. This latter procedure he was reluctant to resort to unless obliged.

Mr. BATTLE read notes of three cases of Extra-dural Hæmorrhage which had been operated on by him during the past few months, and they formed an interesting series. The first was the case of a woman aged fifty-nine, who was admitted to St. Thomas's Hospital with compound depressed fracture of the skull and compound comminuted fracture of the os calcis and astragalus. The temperature was 95·4° F. There was some oozing from the fracture of the skull, but nothing, excepting the marked shock, to indicate the presence of the large clot of blood which was found at the operation. There was no paralysis or even inequality of pupils. An operation was performed for the depressed fracture. The clot found had compressed the right hemisphere to such an extent that no expansion followed its removal, and she returned to bed with a large depression of the right side of the brain. The shock gradually passed off, and no symptoms of an unfavourable nature developed. The leg was saved; although some sloughing of the wound followed, this was not accompanied by suppuration, and she left after a residence of thirty-five days. She was now able to walk. The second case was that of a boy aged five, admitted to St. Thomas's Hospital and operated on two hours after his accident—a fall on the head from a coster's barrow. There had been no interval of consciousness. There was a baggy, bloody swelling in the scalp, extending from the temporal region upwards and backwards towards the longitudinal sinus, and marking the site of a simple fissured fracture of the skull. He was quite motionless and could not be roused; the pupils were equal and reacting to light. Then twitchings developed in the eyebrows, the left ala nasi, the left side of the mouth, and afterwards in the left arm and leg. There was some twitching in the right side, but it was less marked. At the time of operation the pulse was full and slow; the right pupil was the larger, but it acted to light. There was no conjunctival reflex and no response on pricking with a pin. The diagnosis was fissured fracture of the vault, with extra-dural hæmorrhage. Operation was performed by semilunar flap, insertion of the blade of Hoffman's forceps in the fissure, the edges of which were separated by one-eighth of an inch, removal of sufficient bone, and application of a ligature of silk to the wounded vessel (anterior branch of the middle meningeal artery) by means of a needle passed through the dura mater round it. The anterior end of the fracture ran forwards into the orbit. Recovery was perfect. In the third case the patient, a big, strongly-built man, was admitted to the Royal Free Hospital after a recent fall from a scaffold. There was a fissured and slightly depressed fracture in the right parietal region, but no loss of consciousness. Drowsiness, unconsciousness, deepening into complete coma, with left hemiplegia and dilatation of the right pupil, a purple condition of the face, and embarrassed respiration, with much sweating, developed. Immediately after the man was seen by Mr. Battle operation was performed, and a large blood clot was found over the right side of the cerebrum. Much bleeding went on during the necessary manipulations. The bone was removed forwards, and on failure to find the bleeding point the opening was extended backwards. There was an opening in a large vein of the dura mater, half an inch from the superior longitudinal sinus and near the posterior superior angle of the parietal. This was closed with a silk ligature passed by means of a curved needle. Another opening from the head, from which venous blood flowed, no longer permitted escape after application of forceps. There was no expansion of the brain, and the man died four hours later, not having recovered consciousness. The hæmorrhage in this case was very severe, and the bleeding point was most difficult to find and secure. Before death the temperature rose to 103·6°.—Mr. CROFT said that it was difficult to decide when it was justifiable to interfere surgically in these cases. In the first case there was no motor disturbance to point to the existence of clot, though a large mass must have lain over the motor area. It was well known that symptoms which pointed very strongly to cerebral hæmorrhage sometimes passed off a little later. The first of such cases to which he was called happened many years ago. The patient, a young man, had fallen down a distance of seven feet and was admitted to hospital with loss of motion in the right arm and leg. There was a puffy swelling in the right parietal region, without external wound. Trephining was resorted to, a large clot weighing four ounces was removed, and the patient made a good recovery.—Mr. W. H. KESTEVEN said that psychical as well as motor disturbances would justify surgical intervention in these cases.—Mr. EVE remarked on the fact that in some of these cases the pupils were unequal, while in others they were not. It would be useful to surgeons if it could be ascertained exactly under what circumstances single or double dilatation of the pupil occurred. He mentioned the case of a woman who was comatose after a head injury and who had unilateral dilatation of the pupils; on trephining, hæmorrhage was found between the dura mater and the brain on the opposite side. In another case a woman a week after falling downstairs developed paralysis, commencing in the arm and leg of the side opposite the injury, with a dilated pupil on the side of the injury. On trephining, a clot was found underneath the dura mater. It would be of great service if the symptoms produced by hæmorrhage, occurring respectively within and without the dura mater, could be classified. When blood was effused beneath the dura mater it tended to gravitate towards the base of the brain and thus might produce bilateral dilatation of the pupils.—Mr. BATTLE, in reply, agreed that it was very difficult to know when to operate in these cases, which varied so much in their symptoms. In the first case he did not operate for hæmorrhage, but in order to raise the depressed fracture, and he was surprised to find that so large a clot had given rise to no symptoms. There were no data to help us at present in respect to psychic disturbances. The dilatation of the pupils in the first case he regarded as due to the shock. In the other two cases the right pupil, which was on the injured side, was the one which was dilated.

Dr. CAYLEY and Mr. BLAND SUTTON related a case of Perforation of the Bowel in Typhoid Fever treated by washing out the peritoneal cavity and excising the ulcer. The patient, a young man aged twenty-five, was seized with symptoms of perforation about the twenty-fourth day of what seemed to be a mild attack of typhoid fever. Previously there had been no diarrhœa or other symptoms of intestinal ulceration. There were sudden excruciating pain in the lower part of the abdomen, vomiting, and collapse; his temperature fell to 97° F. and his pulse became extremely small; there was great tenderness over the abdomen,

and there seemed to be signs of the presence of gas in the peritoneal cavity. The conditions appeared to be favourable for operative interference; though the fever had run rather a protracted course, the type had been mild, and before the perforation the patient's strength had been well maintained. From the absence throughout of diarrhœa or other intestinal symptoms, it might be inferred that the ulceration was slight in amount and probably chiefly situated rather high up in the ileum, where it would be more easily accessible. The lower down the ulcers the more severe was the diarrhœa. It was usually most severe when the ulceration extended into the large intestine, next when it was chiefly about the ileo-cæcal valve, and least when, as was sometimes the case, it was mainly in the higher part of the ileum, though these ulcers were very liable to perforate. Moreover, as this was about the twenty-fourth day of the illness, it was hoped that the fever was drawing to its termination. Accordingly, five and a half hours after the accession of the symptoms, the collapse having passed off, Mr. Bland Sutton, who was assisted by Dr. Berkeley, opened the abdominal cavity by an incision 8 cm. long in the linea alba, between the umbilicus and symphysis pubis; the recto-vesical pouch was found to be full of a brown turbid fluid which had escaped from the bowel, and bubbles of gas were being given off. On withdrawing a coil of intestine from the pelvis a perforation was found in the centre of an oval ulcer, the outline of which was plainly apparent through the intestinal wall. In the adjacent mesentery a large pink gland was visible, no other ulcers being seen. The ulcer was excised by an oval incision, the cut edges of the mucous membrane were drawn into apposition by a continuous silk suture, and then the serous surfaces were brought together by eleven Lembert's sutures; the peritoneal cavity was freely irrigated with warm water, and the stitched portion of the gut was laid immediately under the wound in the abdominal wall, which was then closed in the usual manner. The operation lasted nearly an hour, a considerable portion of which time was occupied in washing out the peritoneum. At the end of the operation the patient was much collapsed, but gradually rallied and lived till the sixth day, passing ultimately into a typhoid state, with great prostration and rambling delirium. Some leakage of gas took place, and consequently the central stitch of the abdominal incision was removed in order to allow a free vent. He was at first fed by nutrient suppositories and enemata, but subsequently took liquid food by the mouth and had a craving for solid food. He suffered a good deal from hiccough. He passed urine and motions without difficulty and during the last two days had diarrhœa, which seemed to be one chief cause of the final fatal prostration. He suffered no pain, and there was no sign of peritonitis. Permission was obtained for a partial examination. The sutured section of bowel was found to be adherent to the edges of the incision through the abdominal wall. Fluid could readily be made to gurgle through this portion of the gut by pressure on the intestine above without any leakage taking place. The escape of gas was due to the sloughing of a stitch exactly in the middle of the suture. The perforation was situated twelve inches above the ileo-cæcal valve. The shock of the prolonged operation no doubt diminished the patient's chances of rallying, and in any future attempt it would probably be better not to excise and suture the ulcer, but, after washing out the peritoneal cavity, to attach the perforated bowel to the abdominal incision and leave a fistula which could be dealt with subsequently.—Mr. HERBERT ALLINGHAM said that he had operated some time previously on a case of typhoid fever in which perforation had occurred. The ileum was adherent to the sigmoid flexure, and on touching the small intestine it tore to pieces, so that it was impossible to suture the perforation. The small intestine was therefore stitched to the abdominal wall, but the patient died twenty-four hours later.—Mr. EVE remarked that in a paper read in 1888 before the Congress of American Surgeons notes were given of five similar cases, all of which had proved fatal.—Mr. BATTLE wondered what was the mortality of perforation occurring in enteric fever if left to itself. There were at present records of about twenty cases of typhoid perforation which had been submitted to operation. Of seventeen cases which Senn had collected, four were said to have been "saved."—Dr. GOODALL said that the case related was a favourable one for operation. It was often extremely difficult to say when perforation had taken place, and if the operator delayed until the fact was made evident by the onset of peritonitis the case was by that time hopeless. Looking back at the last twelve cases which he had seen of perforation, during typhoid fever he was sure that in not one would surgical intervention have had the slightest chance of success. As many cases of perforation recovered under medical treatment alone, this made hesitation necessary before deciding to interfere.—Dr. BURNEY YEO thought that if the patient had lived there would have probably been a stricture of the intestine, for its lumen had been so much narrowed by the suture.—Mr. BLAND SUTTON, in reply, said that he operated because the conditions appeared to be so very favourable. The proper time for the operation was when the patient had rallied from the shock of the perforation. He thought that if a temporary artificial anus had been made the patient would have had a better chance of recovery. The patient must have died if left, for the pelvis was full of extravasated fæces. In endeavouring to discover the portion of gut which had perforated it should be remembered that when deflated the gut tended to sink into the pelvis, and that was where he had found the perforation.—Dr. CAYLEY, in reply, said that, though patients might recover after perforation, he did not think that recovery was possible when there had been much extravasation.

OBSTETRICAL SOCIETY OF LONDON.

Exhibition of Specimens.—Symphysiotomy.—The Relation of Heart Disease to Menstruation.

A MEETING of this society was held on Wednesday, March 7th, Dr. G E. HERMAN, President, being in the chair.

The following specimens were shown:—

Dr. DUNCAN: (1) Ruptured Tubal Gestation-sac, with Embryo *in situ*, and a Drawing of the same; and (2) Polypoid Myoma of Cervix. Dr. LEITH NAPIER: (1) Fœtus with Ectopia Viscerum and Retroflexion of Spine (referred to subcommittee); and (2) Anencephalic Fœtus.

Dr. ROBERT P. HARRIS of Philadelphia read a paper entitled "A Plea for the Practice of Symphysiotomy, based upon its record for the past eight years." He mentioned the unfavourable statistics of the operation of symphysiotomy during the period 1777 to 1858, and the great reduction of mortality in both mothers and children since its revival by Morisain in 1866, and pointed out that the success obtained by this operator, and by Novi and others in Italy, showed that the operation is founded on a rational basis. He considered that the results obtained in other countries were very encouraging, and mentioned, as the best conditions for the performance of symphysiotomy in view of saving the child's life, that the woman should be operated on in good season; that the size of her pelvis should be accurately ascertained; and that the true conjugate should not measure less than 2¾ in. The child should be very carefully, not hurriedly, delivered by the forceps applied to the sides of the head; and if asphyxiated it should be carefully treated for its restoration.—Dr. LEWERS said that Dr. Harris had inquired what stopped the progress of symphysiotomy in England. Dr. Lewers' own case, operated on last year, was the only one published in England since the revival of the operation. He thought some of the early mortality was due to the operation having been performed in extreme cases of pelvic contraction, and much to the want of asepsis. He pointed out the difference in rigidity of the pelvic joints in pregnant and in non-pregnant women, and that in the former a gain of three-quarters of an inch in the conjugate was possible. He considered the indications for operation were failure to deliver with forceps in a slightly contracted pelvis, and that strict asepsis was necessary. He estimated the present mortality of symphysiotomy at 7 per cent.—Dr. HORROCKS, after mentioning the three alternatives in the case of a living child which could not be delivered alive—namely, craniotomy, Cæsarean section, and symphysiotomy—said that craniotomy should have a mortality of *nil*, and he believed the mortality of the second alternative to be less than that of the third—certainly more children were saved. He mentioned the unfavourable after-effects of Cæsarean section, and related two cases where conception had occurred after this operation when the tubes had been ligatured. Sterility would be best obtained by removing the ovaries or by excising a piece of tube. He had witnessed one case of symphysiotomy, and was astonished at the wide separation of the halves of the symphysis; he was only able to surmise what state the sacro-iliac joints must be in. The woman had been unable to work since, and was now, he had heard, in an infirmary. He would like to know if this was common, and instanced Dr. Lewers' case, when the

patient could not do her work so well as before operation. He should recommend a patient, under the conditions named, to have craniotomy performed; or if she was anxious to have a living child, and willing to incur the extra risk, Cæsarean section, in preference to employing symphysiotomy.—Dr. GRIFFITH thought the reason why symphysiotomy was not more frequently done in this country was because the operation was a very serious one for the patient. He had not yet found, although he had about 3000 cases of labour annually under his charge, the conditions necessary for its performance present—namely, the pain in labour, a moderate degree of contraction (conjugate vera not less than 3in.), the fœtus alive, and delivery impossible with forceps properly applied. He believed the total risks of Cæsarean section were less than those of symphysiotomy.—The PRESIDENT said that obstetrical science was much indebted to Dr. Harris and others who had put their results before the profession. The percentage mortality appeared to be about 10, not lower than that of favourable Cæsarean section. The latter operation could be combined with sterilisation, but the best way of doing this had not yet been established. Symphysiotomy, in which operation the patient could not be sterilised, might be required many times in the same patient. There was no information as to whether frequent division of the symphysis could be done on the same woman with good union each time, and the after-histories of symphysiotomy cases were as yet wanting. In one recorded case the patient could not do her work so well as before, and in another laceration of the urethra occurred. He was inclined to think Cæsarean section preferable to symphysiotomy.—Remarks were also made by Dr. CULLINGWORTH and Dr. LEITH NAPIER.

A paper was then read by Dr. GOW on the Relation of Heart Disease to Menstruation. Particulars with regard to menstruation were given of 50 cases. In 28 the menstrual flow was unaltered; in 17 the flow was absent or scantier than before; in 5 the flow was either more profuse or recurred more frequently than before; in no case was there good evidence that heart disease gave rise to severe menorrhagia. It would seem that either amenorrhœa or scanty menstruation was a far more common accompaniment of heart disease than menorrhagia. A further analysis of these cases seemed to point to the fact that heart disease led to relative sterility, and also that it greatly increased the tendency to premature expulsion of the ovum. In conclusion, it was pointed out that a large number of women suffering from valvular disease of the heart pass safely through the period of pregnancy and labour. The cases were further analysed as follows: 1. Mitral stenosis (22 cases): in 9 cases menstruation was regular and the amount lost unaltered, in 5 cases menstruation was regular but more scanty, in 4 cases there was amenorrhœa, and in 4 cases menstruation was either more frequent or more profuse. 2. Mitral incompetence (15 cases): in 10 cases menstruation was unaltered, in 4 cases menstruation was more scanty, and in 1 case there was amenorrhœa. 3 Mitral stenosis and incompetence (7 cases): in 4 cases menstruation was unaltered, in 1 case menstruation was more scanty, in 1 case there was amenorrhœa, and in 1 case there was slightly increased menstrual loss. 4. Aortic incompetence and obstruction (2 cases): in both cases menstruation was unaltered. 5 Aortic and mitral incompetence (3 cases): in all cases menstruation was unaltered. 6. Aortic incompetence and obstruction and mitral incompetence (1 case): menstrual loss was more scanty than before.—Dr. JOHN PHILLIPS was much interested in the paper, as he had for some time been investigating the subject. He commented on the want of reference to the subject in the whole literature of the past twenty years. He had examined the hearts of 656 women consecutively, whose ages varied between eighteen and forty-four, in the out-patient room at King's College Hospital, and had observed fifteen cases of organic heart disease. In none was there menorrhagia, in most a tendency to amenorrhœa, and in two aortic cases the patients attended in consequence of amenorrhœa and breathlessness. He agreed with Dr. Gow in all his conclusions, except that he thought, perhaps, a woman conceived as readily with a damaged heart as with a healthy one. The tendency to abortion was undoubted.—Dr. HORROCKS recognised the value of the paper. He thought, however, that more accurate knowledge could be obtained by comparing the menstrual history of a patient with the condition of the heart found post mortem. Records of the menstrual function were rare in medical and surgical reports. He pointed out that most of Dr. Gow's cases were instances of mitral stenosis and that it was only when tricuspid regurgitation occurred that any marked effect could be expected in the uterus. In the cases where the tricuspid valves were incompetent there was no menorrhagia. He thought all the facts were in favour of Dr. Gow's conclusions.—The PRESIDENT called attention to the admirable methods of Dr. Gow's research. Instead of taking patients who came to a hospital for their special diseases, and in whom there would appear a greater frequency of functional disturbances of the genital organs associated with heart disease than was actually the case, he took patients with heart disease and inquired into the frequency of menstrual disturbance in them. He (the President) had made some observations on the effect of venous congestion from heart, lung, and liver diseases on menstruation, and his results in the main agreed with those of Dr. Gow.—Dr. GRIFFITH had met with an instance of menorrhagia coexisting with mitral regurgitation.—Dr. Gow replied.

OPHTHALMOLOGICAL SOCIETY.

Orbital Tumours.—Adjourned Discussion on School Ophthalmia.—Exhibition of Specimens.

AN ordinary meeting of this society was held on Thursday, March 8th, the President, D. ARGYLL ROBERTSON, M.D. F.R.S.E., being in the chair.

Dr. HILL GRIFFITH (Manchester) related some cases of Orbital Growth, showing photographs and preparations. The first represented the successful removal from the upper part of the orbit of a man aged thirty-five of an encapsuled adeno-sarcoma which was causing repression and downward displacement of the eye. The second was the removal of what afterwards proved to be a hypertrophied lacrymal gland from the orbit of a young girl. When seen six years later a large irregular bony exostosis (?) filled the space between the frontal arch and the eyeball. Probably the lacrymal gland had been pushed out of position by the slowly growing mass, and had been erroneously regarded as the cause of the trouble. The third was a symmetrical tumour in a similar position in an otherwise healthy young man, which was regarded as an acute hypertrophic inflammation of the lacrymal glands. The fourth case was one of very slow and painless protrusion of the eyeball in an otherwise healthy young woman in whom a portion of growth could be felt in the upper and outer part of the orbit. Seventeen months after the first visit the tumour was removed, together with the orbital contents, the nature of the growth being doubtful. The last two cases were malignant growths in which the orbital contents were removed, death occurring in one case twelve months later from extension of what had proved to be sarcoma, and in the other from meningitis on the twenty-fourth day after operation. Dr. Griffith stated that in all such cases he had found pressure sufficient for the arrest of hæmorrhage, and he warned others against the use of the actual cautery with this object.—Mr. MCHARDY questioned the value of the horseshoe incision in these cases, involving as it did so much more stitching.—Mr. JULER stated that he had exhibited a similar case, in which a portion of the growth had been removed and subjected to microscopic examination, the opinion being expressed that it was sarcoma. A suspicion of syphilis, however, was aroused, and the patient recovered completely under mercury.—Mr. ADAMS FROST mentioned a similar case, in which a growth had been removed as sarcoma, but turned out subsequently to be syphiloma.—The PRESIDENT described a case of symmetrical orbital tumours, both of which had been removed at different times and places, but recurred and finally disappeared under iodide of potassium.—Dr. LITTLE dwelt on the difficulty of diagnosing orbital tumours, and mentioned a case similar to the foregoing in a male patient fifty-five years of age. The tumours had existed two months, and on removal looked like sarcoma.—Dr. HILL GRIFFITH, in reply, said that the horseshoe incision was only adopted in order to give more room where the tumour was very extensive.

The adjourned discussion on Mr. Hutchinson's paper on School Ophthalmia was then resumed.

Mr. HUTCHINSON said that in his paper, so far from exaggerating the frequency and severity of the attacks, he had rather understated them. At the school with which he was mainly concerned many of the cases had fulfilled the exact tests of workhouse ophthalmia, having frequently relapsed and lasted for from six to eight months, developing

a most definite condition of granular lids, and he maintained that this epidemic presented no obvious difference from workhouse ophthalmia. As to this being a new thing, he was of opinion that there was no initial difference between the epidemic of which he was now speaking and what had long been known as workhouse ophthalmia, except that the cases being taken in hand at once, the severer after consequences were less frequent. With regard to the suggestion put forward by Mr. Nettleship, and supported by Mr. Stephenson, that there were two forms of the disease, of which one had severe consequences and the other not, the *onus probandi* rested with them. He himself could find no means of distinction. Inquiries among the public schools had failed to elicit any evidence of previous epidemics. An important question was whether the infection was conveyed directly from eye to eye or whether it resided in the walls and hangings of the rooms; he was himself inclined to the former view. With regard to the question of certificates, it was extremely difficult to say when the disease was actually present in the early stage or when it was quite cured. He was not disposed to throw any great responsibility on practitioners in this matter, and many certificates he knew had proved quite valueless. It was difficult for consultants to estimate the frequency of occurrence of granular lids, as so many were treated entirely in family practice.—The PRESIDENT pointed out that the points on which the opinions of members of the society were desired were (1) as to the increase of the disease; (2) whether there was more than one form; (3) the mode of conveying contagion; and (4) the necessity for certificates.—Mr. JULER said that there had been a widespread increase of ophthalmia in the past year owing to the long, hot, and dry summer. He demurred at speaking of this disease too closely in connexion with granular lids, since the majority of the cases did not so develop, and he mentioned an instance in which he had seen 100 boys on one occasion suffering from purulent ophthalmia together, of whom the majority recovered under appropriate treatment in three weeks, but thirty subsequently had granular ophthalmia. He suggested that this might have been present in a mild degree before, the purulent ophthalmia being superposed.—Mr. DOYNE said that during last autumn there had been an epidemic of eye trouble all over the Oxford district. The ophthalmia was usually cured in a week and left no sequelæ. He thought follicular conjunctivitis meant very little, but eyes so affected might suffer more from a muco-purulent ophthalmia than such as were quite smooth. Among notes of 12,000 cases he only had 21 of trachoma, of which 11 had been imported. In 7 of the 21 only one eye was affected, and 1 had been for a year in a workhouse school without any extension of the disease to others.—Mr. SIDNEY TAYLOR (Norwich) stated that during 1893 he had seen no cases of trachoma, but that since the beginning of the present year 6 cases had come under his notice.—Mr. NELSON (Belfast) mentioned cases which had come under his care with enlarged follicles and asthenopia following measles, and continuing for two years. He suggested the possible conveyance of trachoma from one case to another by the brush in painting lids.—Mr. CRITCHETT agreed that there was evidence of increase of ophthalmia in the autumn of 1893, and of a more severe form than usual, but the cases did not relapse, and he had not seen granular lids resulting from it.—Mr. PRIESTLEY SMITH said there were a large number of lids with enlarged follicles which might only represent the tendency to adenoid development so often met with in the pharynx in children, especially in towns. Such enlargement was often excited by atropine, but there was no evidence of its contagiousness. These children might be more liable to conjunctivitis, of which more cases had occurred in a recent six months than in the previous six years. He did not connect this with trachoma, which, according to the recent German theory, was the result of a specific germ infection allied to gonorrhœal ophthalmia. The present epidemic he thought was due rather to bad hygiene than contagion, which produced this follicular enlargement associated with more widespread purulent ophthalmia.—Mr. MCHARDY enumerated three forms of granule met with in the lids—follicular, trachomatous, and papillary. Some of the cases alluded to might be follicular granules infected with trachoma or might be follicular pure and simple. He recommended separating the different classes of cases and improving the hygienic conditions. With reference to certificates, inasmuch as the school medical attendant had to accept the responsibility and take what measures were necessary he was the one best fitted to give them.—Dr. LITTLE said that among the cases which had come to him from the public schools he had not noticed any increase in trachoma. He had often met with follicular enlargement with irritation, which he thought was made worse by the application of caustic. It was better treated by hygienic measures.—Mr. STEPHENSON did not accept two epidemic forms of follicular conjunctivitis. Among the children he had examined 94 per cent. exhibited follicular enlargement and only ½ per cent. trachoma. In the public schools muco-purulent ophthalmia commonly occurred in the spring and autumn. There was no trachoma, which he thought should not be diagnosed without material evidence.—Mr. NETTLESHIP disclaimed any belief in two forms of school ophthalmia. The tendency to development of adenoid tissue varied with conditions of life, being greater in children, town dwellers, and certain races; it was also favoured by defective sanitary conditions. Should an outbreak of conjunctivitis occur among such subjects a considerable proportion might be expected to develop a granular condition of lids, and then too many precautions could not be taken. Referring to certificates, he was of opinion that these should be given by the school medical attendant.—Mr. HUTCHINSON, in reply, said that a sandy condition of the lower lid had led to endless mistakes, but that no affection limited to this had been included in his account. The severity of the outbreak in the school with which he was concerned was attested by the fact that all the boys had been sent home for two months, and that the affected ones had returned in a worse condition than that in which they left; also that the outbreak had lasted eight months before he was called in. He thought it was of the greatest moment to appreciate the significance of these cases in the early stage, when they were curable, as it was through neglect that the severe and incurable forms of granular lids arose. If 30 per cent. of the cases cited by Mr. Juler had developed granular lids, he thought it was a fair inference that the rest were milder instances of the same condition and had been cured. He did not accept the theory of the gonorrhœal origin of trachoma and thought it had nothing to do with workhouse ophthalmia. It was an open question whether there were both an ordinary and a specific form of catarrhal ophthalmia; practically it was advisable to separate the affected boys from the healthy, placing the severe cases under rigorous treatment.

The following cases and card specimens were shown:—

Mr. SPENCER WATSON: Interstitial Keratitis with intense Photophobia and Sneezing in a man aged thirty-one.

Mr. J. B. LAWFORD: Peculiar Pigmentation of Iris and Choroid.

Mr. H. WORK DODD: Coloboma of Iris and Choroid.

Mr. JULER: Uniocular Optic Neuritis (syphilitic).

Mr. COWELL and Mr. JOHN GRIFFITH: Circumferential Folding of Periphery of Iris with Detachment of Retina.

Mr. PRIESTLEY SMITH: Snellin's Shield for Protecting Eye after Operation.

Mr. ADAMS FROST: Nystagmus of Recent Origin from working in Bad Light.

Dr. ROCKLIFFE: (1) Hæmorrhagic Changes at the Macula after Cataract Extraction; (2) Increasing Amblyopia with Changes at the Macula.

PROVINCIAL MEDICAL SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Tuesday, March 6th, Dr. JOHN APPLEYARD, President, in the chair.—Dr. LOGAN showed an arrangement of combined Aspirating and Evacuating Syringes communicating with a single double-channelled needle, used to minimise pitting in small-pox by early evacuation of vesicles and replacement of the fluid by antiseptic solution.—Dr. GOYDER read notes of a case of extensive Warty Growths over the neck, shoulders, and breast. Treatment by thyroid tabloids had resulted in a complete disappearance of the growths in about six weeks.—Dr. RABAGLIATI read a paper on Salpingo-Ovaritis, showing specimens preserved in 0·001 biniodide of mercury solution and giving details of cases following remotely on miscarriage.—Dr. HORROCKS showed a specimen from a case in which, for stoppage of the bowels, he had performed an operation for intestinal anastomosis. The patient died six weeks after from ulceration at the seat of stoppage—the ascending colon, owing, probably, to intestinal contents passing into the short circuited portion and being prevented returning by the ileo-cæcal valve.—Dr. WOOD read notes of a case of Nephrectomy in

which the ligature on the pedicle had slipped, there was a rush of blood, and, the vessels being secured, patient was collapsed and pulseless. Two pints of saline ·001 solution were injected into a vein and oxygen gas inhalations given, the patient rallying at once and making a good recovery.

WIGAN MEDICAL SOCIETY.—A special meeting of this society was held on Thursday evening, March 8th, Mr. E. H. MONKS, jun., President, in the chair. A paper was read by Dr. F. REES on Pulmonary Embolism and Thrombosis in the Puerperal State.—Mr. W. BERRY related a fatal case of Puerperal Pulmonary Embolism. A discussion followed.—Mr. MITCHELL ROOCROFT showed a case in which he had wired the humerus six weeks after fracture, with a successful result.—A letter was read from the Secretary-General of the International Congress of Hygiene and Demography, and the following were appointed delegates to the Congress: Mr. E. H. Monks, jun. (President), Mr. J. A. Marsden, and the hon. sec., Mr. William Berry.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Wednesday, March 7th, Professor DIXON MANN, M.D., F.R.C.P., President, in the chair.—Dr. THOMAS JONES showed two cases of United Fracture of the Olecranon, treated by wiring. In both instances the injury had been sustained by a severe fall on the point of the elbow. In one case an interval of sixteen months had elapsed since the accident, and in the other one of six weeks only. The olecranon in both cases had been fractured near its base, and at the time of the operation had become fixed to the humerus. It was exposed by a single posterior median incision, the fractured surfaces freshened and brought together with two silver sutures in each case. The wires were left *in situ* and remain, causing no inconvenience. In one case the joint was drained with catgut. Primary union with perfect function resulted in both instances.—Dr. HARDIE showed a case of Persistent Thyro-glossal Duct or Canal of His in a boy aged twelve. He referred to its developmental origin, and proposed to treat the case by slitting up the canal and then excising the fibrous structures surrounding it. Alluding to the rarity of the affection, he stated that another case had just been under the care of a colleague at the Royal Infirmary. Dr. Hardie also showed a case of Tumours of the Cervical Vertebræ associated with Enchondromata of the Fingers in a boy aged sixteen. He also referred to another case of Osseous Tumours of the Cervical Vertebræ in a man aged thirty-five who was then under his observation.—Dr. DONALD made some remarks on Vaginal Hysterectomy, and gave short notes in a tabular form of seventeen cases in which he had operated. There were 3 deaths, 2 from septic peritonitis, and 1 from asthenia. In the last 12, in which the wound in the peritoneum was partially closed, only 1 death had occurred. Fourteen of the cases suffered from cancer of the cervix or of the body of the uterus. Three of these ended fatally; in 4 there was a doubtful benefit; in 4 there was recurrence within six months, but the operation greatly relieved symptoms; in 3 there was no recurrence (1 after three and a half years, 1 after two years and four months, and 1 after nine months). In the remaining 3 cases the operation was undertaken for uterine fibroid; all of them recovered. In 2 of these the tumour was as large as a fœtal head.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—Dr. HUNTER presided at the clinical and pathological evening of this society held on March 7th, when Mr. ANDERSON showed (1) a man aged forty-four, who had suffered from Epileptiform Attacks for nine years, dating from a fall on the head. The symptoms pointed to lesion of the left motor centres. There was a scar on the scalp five inches above the left auditory meatus, and the bone under the scar was grooved. A trephine was applied over the depressed bone, and when the disc of bone and the dura mater had been removed a cystic accumulation of fluid was found pressing on the brain. This was evacuated and the wound dressed. The patient made a good recovery, with relief from all his symptoms. (2) A man aged twenty-three, who had suffered from Fits of nine years' standing. The localising symptoms pointed to a lesion in the centre for the movements of the left thumb. Two previous operations had been performed, with only temporary benefit. The skull was trephined a third time on Feb. 20th, 1894. Recovery from the operation was complete, and he had since had only three slight fits. (3) A male patient aged twenty-six, who had had twelve attacks of Appendicitis during the last five years. An operation was performed, which resulted in complete recovery. The enlarged and adherent appendix was excised, and the cut surface was covered by an omental graft. Mr. Anderson then related the case of a man whose head had been injured a year previously by the fall of a stone upon it. He had since suffered from Headache, Vertigo, and Mental Failure. A disc of bone was removed from the right parietal region, corresponding with a tender spot on the scalp. Since the operation the symptoms had been much relieved.—After the relation of the above cases Dr. ELDER discussed Some Reasons for Early Ovariotomy. After pointing out the change in practice during the last twenty years he gave the following reasons for early operation: the danger of benign tumours becoming malignant, the prevention of serious pressure symptoms, and the danger of adhesions forming and of accidents such as twisting of the pedicle and hæmorrhage into or suppuration of the cyst.—Remarks were made by Dr. STEAVENSON, Dr. CATTLE, and Dr. WATSON.—The following specimens were then shown:—Dr. ELDER: Subperitoneal Uterine Fibroids; Ovarian Papilloma and Cystomata; and a series of Diseased Uterine Appendages.—The PRESIDENT: Ovarian Cyst from an Infant six weeks old.—Dr. KINGDON: Gelatine Preparations illustrating Diseases of the Eye.

Reviews and Notices of Books.

A Treatise on Hygiene and Public Health. Edited by THOMAS STEVENSON, M.D., F.R.C.P., and SHIRLEY F. MURPHY, M.R.C.S. Vol. II. London: J. and A. Churchill. 1893.

[THIRD NOTICE.]

DR. ARMSTRONG'S article on Marine Hygiene supplies a distinct want, not only in the collaboration of much valuable matter hitherto scattered in detached articles over many periodicals and treatises, but in setting forth and recording the results of a large practical experience. Of recent years, owing no doubt largely to the prevalence of cholera abroad, public attention has been specially directed to the sanitary administration of the various port and riparian districts, as well as to the requirements for the safe transport of pilgrims, emigrants, and other passengers, and the conditions requisite for the maintenance of health in those employed at sea in connexion with various branches of commerce. Dr. Armstrong divides his subject into the following sections—viz., (*A*) The Sea, (*B*) The Ship, (*C*) Crews, Passengers &c., (*D*) Cargoes in Relation to Hygiene, (*E*) Port Sanitation and Special Measures for the Prevention of Disease, and (*F*) Bibliography of Marine Hygiene. These indicate the scope of the work. In contrasting the conditions of life at sea with those on land, it is well to remember that at sea the population is in a sense a selected one; excluding the relatively few voyaging for health's sake and emigrants of tender years, the marine population is as a class presumably able-bodied and of at least average health to start with. The kind and character of the ship, the route and duration of the voyage, involving varying degrees of exposure to cold and damp, exercise important hygienic influences. It is the custom in some steamships to pay the seamen, firemen &c. weekly, leaving them to provide their own victuals—an arrangement which often results in insufficient provision, unsuitable storage, and waste. A good description of the different kinds of ships is given under Section *B*, and vessels are classed according to the purpose they are intended to serve—e.g., trading, passenger, cattle, ore, &c. Build and the materials of construction have a great effect on the hygienic character of the ship. The fewer decks, the more airy and sweet the vessel. Ventilation becomes more complex and more difficult in proportion to the number of compartments into which the ship is divided, either longitudinally or transversely, vertically or horizontally. "Well-decked" vessels, on account of liability in stormy weather to ship heavy seas, which lodge in the "well" and flood the ship, are dangerous. Among fresh-water craft, the canal boat is the most worthy of attention as regards the health of those on board, for it is the

house and home of a large population, and this often under circumstances most adverse to sanitation. Overcrowding, dirt, foul air, defective ventilation and disease are frequent on such boats, and but for the system of inspection under which they are placed would be much more common than they are. As on land so also on shipboard—ventilation is one of the most important sanitary matters to attend to, for aeration is the proper and principal means of counteracting foul emanations from holds or bilges and the exhalations resulting from the crowding together of human beings in a confined space. The larger the vessel the more complex does the question of ventilation become. The crews of war vessels are worse off than those of merchantmen in regard to the purity of the air they breathe, owing to the large number of hands and the difficulty of ventilating their quarters properly, all or most of which are of necessity below deck. The means recommended by the advisers of the Government of this and other countries for the ventilation of the different parts of ships of war, several of which are described, display a great deal of inventive faculty. Some useful diagrams illustrate the points in question. The cargo itself is often a source of air-pollution, but Dr. Armstrong considers that attention to ventilation and the structure of the vessel might often minimise this evil, and he quotes an interesting case in point. A brief account is given of the rules and methods adopted by the Board of Trade in supervising and inspecting ships' stores. One defect on board many merchant vessels is the want of proper places in which to store provisions and to save the food of the crew from being contaminated by unwholesome exhalations. Queen's Regulations and Admiralty Instructions in regard to rations are quoted by Dr. Armstrong, and he gives an important reference to the sources, quality, and storage of water.

Under Section *D* or *E* a fuller reference to vessels engaged in the pilgrim trade would have been welcome, since unpleasant revelations are from time to time made in connexion with this branch of marine enterprise. Thus the master of the *Samoa* was charged at the Liverpool Police Court, on Feb. 24th, with having failed to record in the log-book certain deaths which occurred on board his ship. It appeared that the *Samoa*, having embarked 3000 Mahommedan pilgrims at Jeddah in August last, cholera broke out amongst them. From this and other causes 200 lives were lost. The log-book contained no entry of these deaths; it would be interesting to know how, when, and by whom the vessel was subsequently cleansed and disinfected. Dr. Armstrong quotes the orders of the Local Government Board relating to cholera at length, and gives an interesting description of the sanitary arrangements in the Tyne port, including the floating hospital constructed by Mr. Laws, which appears to be adapted to local conditions and requirements. The article maintains the high reputation of the writer, and will be welcomed by all interested in the application of sanitary principles to the varied requirements of shipping.

A Theory of Development and Heredity. By HENRY B. ORR, Ph.D., of the Tulane University of Louisiana. New York and London: Macmillan and Co. 1893.

DR. ORR says in his preface that "at this time, after the critical and minute investigation to which biological phenomena have been subjected for the last thirty years, it is not to be expected that we should suddenly discover some new and recondite fact far removed from ordinary observation which should revolutionise all our views in regard to biological phenomena." He disclaims for himself any such discovery, but he believes that "by a critical review of the facts of biology, in the light of the great conclusions derived from the allied sciences of physics and psychology, we may obtain a view of the great phenomena of life which shall bring into harmony a more extensive range of facts and explain intelligibly relations which have hitherto been hidden." The book before us is the result of this attempt. It is a solid piece of work, and gives evidence of much hard thinking on the part of the author. He grapples courageously with all the great problems of development, heredity, natural selection and evolution, and subjects to close analysis all the various theories that have been advanced for their elucidation. There is no padding in the work or cheap rhetoric, but there is evidence of decided originality of thought and force of argument. On the other hand, the style is unattractive. The writer in aiming at brevity and compression has made his book hard reading and often laboured and obscure. He has been chary of illustration and example and has seen fit to assume a knowledge of biological phenomena on the part of his readers which is hardly justifiable. Further, while he advances much that is ingenious and interesting on the subject of development and heredity, he is not successful in making his own special view particularly lucid. His general position is that for the explanation of the laws of development we must take more account of psychological phenomena than has commonly been done, and that the various forces which have been supposed to influence development have been mainly operative through the nervous system. "The different methods of development of various organisms," he says, "cannot be accounted for by difference in the chemical composition of the germs nor by difference in their cellular structure. We must recognise some general property of living matter, by virtue of which the individual and racial development of organisms takes place. We can only express it as that which is the basis of nervous coördination, and which makes all nervous activity possible." He repudiates any mechanical theory of natural selection, saying boldly that "natural selection is a barrier to progress in certain directions, not a cause producing progress. The cause of this progressive development we must seek in the properties of living matter and in the forces which act upon it." In another place he says that the fact that "the kea bird of New Zealand has learned to dig the kidney fat out of living sheep since the introduction of sheep into that country is another wonderful instance of change of instinct hardly to be accounted for by means of natural selection, but rather as the result of intelligent experience." As an example of Dr. Orr's general views regarding the influence of environment upon the organism we may quote his remarks on the colour of living creatures. "Living matter seems to be in a general way capable, to a certain extent, of photographing colours when exposed for many generations. An example is found in the fishes, crabs, shrimps, worms, polyzoa and hydroids which live among the masses of yellow seaweed found floating in the Gulf Stream, and which all partake the yellow colour of the weed. Another instance is that of the animals of the great Sahara Desert, all of which, both those preying and those preyed upon, share alike the tawny colour of the desert. The fact that the colouration of animals increases towards the equator leads easily to the supposition that the lack of pigment or whiteness of animals in the extreme north may be primarily due to the small amount of light in those regions. ..... The colouration of animals is dependent on some peculiar reaction of the physiological forces towards light, and not solely on the protection or ornamentation of animals."

We have endeavoured to present Dr. Orr's views as fairly as possible, and we think that they are worthy of careful consideration. Our limits of space will not permit us to enter into any adequate discussion of the great problems raised by the author, and we must content ourselves with a remark or two. Is anything to be gained by attributing a certain phenomenon to innate or essential properties of protoplasm? Are not such

statements at bottom identical propositions, the conclusion being really a repetition of the premises and not a true deduction from them? Is there much real difference between such a view and the position of Darwin that organisms tend "naturally" to vary and that variations are influenced by environment? We commend these questions to Dr. Orr; but we must do him the justice of saying that he has written a thoughtful and able book, and that in drawing attention to the psychological factor in biological phenomena and the predominant influence of the nervous system he has done a real service to science.

Die Anatomische Nomenklatur. Eine Historische Untersuchung. (*Anatomical Nomenclature.* A Historical Investigation.) Von Professor W. KRAUSE, Berlin. Leipzig: Georg Thieme. 1893.

"THE Lavoiserian nomenclature, whatever its merits in other respects, is a system of philological monstrosities, in which it is fortunate when the analogies of language are only violated and not reversed." So said Sir William Hamilton fifty years ago, and his unheeded criticism might still be taken to heart by other nature students besides chemists. Indeed, scientific terminology as a whole is in urgent need of root-and-branch reform, and none more so than the medical. The fact has been recognised and the attempt has been made by physicians of the first order during the present century. For its time, Dr. Craigie's "Elements of the Practice of Physic" (two vols., Edinburgh, 1836) was a distinct advance on all previous works, and its accomplished author made a revised nomenclature one of its special features. Scholar as he was, he tried to substitute for Latin or Anglo-Latin words their Saxon or Anglo-Saxon equivalents, with results like the following: Urticaria tuberosa, "knobbed nettle-rash"; psoriasis, "scaly tetter"; strophulus confertus, "rank red gum"; pompholyx diutinus, "tedious blebs," and so forth; but according to his friendly critic, Sir Robert Christison, "no one espoused his English nomenclature and British medicine still recognises these abominations by their Latin names only." The English-speaking world of science has indeed long convinced itself that the classic tongues supply the most expressive, euphonious, and memorable additions to its nomenclature, and that there is no gain either in clearness or impressiveness by deposing, for example, the "impenetrability of matter" in favour of the "unthoroughfaresomeness of stuff."

But, admitting the superiority of Latin and Greek roots over vernacular ones in the formation of words, the first essential is that, in forming these, the laws of language should be observed, and that the votary of one science should not, in adding to his own, violate the fundamental principles of another. The Professor of Histology in the University of Berlin is strongly of this opinion, and very early in his enumeration of the conditions of a correct anatomical nomenclature he lays down this: "Die Namen sollen sprachlich und orthographisch richtig sein." (The names shall be philologically and orthographically correct.) How far either condition is complied with let anyone who has mastered the ordinary principles of word formation open an anatomical text-book and see. The rule that "when the first word in a compound is a noun (substantive or adjective) it regularly ends in a short *i*," is constantly violated, and so, in defiance of such analogies as "patricida, artifex, stillicidium, belligero," and suchlike, we have monstrosities like "occipito-frontalis," "palato-glossal," "ulno-carpal," &c., in which the connecting vowel is made *o* instead of *i*. Such forms as "Græco-Latinus" or "Franco-Gallus" are only allowable in the case of proper names of the second declension, while the solitary "sacro-sanctus" is not a case in point. These rules were unknown to the Italian anatomists of the Renaissance, as were also those of the adjectival suffixes, and so we get such erroneous derivatives as "poplitealis" for poplitalis, "glutæus" for gluteus, and an endless confusion of the Latin suffix ĕus with the Greek αιος or ειος. But ignorance of this kind was not restricted to the Renaissance or to anatomists. When such a consummate grammarian as Ruddiman could, in the middle of last century, write "Buchananæus" much may be forgiven to the medical scholars of two hundred years before. Another result of imperfect knowledge is the mispronunciation of anatomical words erroneously formed. Why, for instance, say "glutēus" instead of glutĕus? Why "poplitēal"? Why "lactēal"? No other reason can be given than that of a bad tradition, descending from a time when impossible spellings like "glutæus," "poplitæus," and so forth were unhappily the rule.

Dr. Krause, whose treatise should be in the hands of every teacher of anatomy, if only for the test of sound conditions it gives for a rehabilitated nomenclature, is strong on the undesirability of calling muscles, nerves, ligaments, and other parts of the human subject after the name of their discoverer, whether putative or ascertained. "Die Benennungen nach Personen werden soviel als thunlich vermieden, namentlich wenn sie beträchtliche historische Unrichtigkeiten enthalten." (The namings after persons will be as far as possible avoided, especially when they embody important historical blunders.) On this subject his remarks (pp. 30–33) are admirable and will command universal adhesion. We have only to add that the "Commission für Anatomische Nomenklatur" appointed by the "Anatomische Gesellschaft" might with advantage have included American as well as British representatives, as its subject matter is one to which many a Transatlantic medical man has given much attention. As it is, however, its labours, which were begun in 1891 when it laid down the fundamental principles of its procedure, can do nothing but good if they only succeed in divesting anatomy of the reproach of remaining mediæval as to terminology, while in the best sense modern as to science.

Standard Dictionary of the English Language. Vol. I. A—L. London, New York, and Toronto: Funk and Wagnalls. 1894.

WE have received the first volume of this magnificent dictionary and also an interesting editorial announcement concerning the difficulties which have been surmounted in its production. The work has, so far, taken four years to execute, and will be completed probably by May 1st of this year. There have been engaged in its production an editor-in-chief, a consulting editor, a managing editor, and three associate editors, to say nothing of 247 sub-editors and experts and 500 copy and proof readers. As evidence of the extraordinary comprehensiveness of the dictionary, as also of the remarkable vitality and assimilative powers of the English language, it is stated that under the letter A four thousand more words are to be found than fall under that letter in the Century Dictionary, eleven thousand more than in Webster's, and seventeen thousand more than in Johnson's (whose whole dictionary, if memory serves us aright, only contained forty-five thousand words). No statistics are given with regard to the other standard English dictionaries—Phillips's, Bailey's, Sheridan's, and Ash's. Among thousands of words admitted for the first time into a general dictionary we find some of value and some not. The following twenty-four words have been specially mentioned by the editors as finding their place in a standard dictionary for the first time, and well illustrate the difficulties with which modern lexicographers have to contend: abneural, abobra, abusee, academize, acculturation, accusably, achronism, acidulation, aconate, aconic, anklong, criminology, Delsartian, demote, electly, electricute or -ocute

electricution or -ocution, enhansive, errancy, graciosity, heliochrome, heliochromoscope, kodak (verb and noun), and linotype. Certain of these words demand a place. They relate to new things which must be defined in a comprehensive dictionary. One or two are obviously useful words—e.g., academize, acidulation, criminology—and concerning them we are disposed to wonder how it is that they have hitherto escaped a dictionary; but for such words as abneural, acculturation, accusably, and demote we can only conceive one excuse—namely, that they have been fathered on the language by very high authority, and in the dictionary no authority is given for them. The same must be said for such heinous expressions as analphabet (unlettered) and humatile (buried in the ground). The editor states that great care has been exercised in avoiding the recognition of needless new literary terms, words coined by the caprice or mistaken judgment of this or that author. A committee of representative scholars have decided upon the omission or rejection of words and have been guided in their judgment by the following simple consideration only—Is the word to be found in a living book (a book now read by a very considerable number of people), so that its meaning is likely to be sought for in an English dictionary? If so, it may not be excluded. This, we think, is an excellent rule, forming a sound definition of the proper attitude for general dictionary makers towards their public as compared with the self-imposed attitude of the academic dictionary maker; but, as a matter of curiosity, we wonder what "living" books read by a considerable number of people contain some of the new words. As a whole, the work is wonderfully good, and in production—printing, binding, and especially illustration—it leaves nothing to be desired. With more special regard to the medical words contained in it, it will be sufficient to note that this section has been throughout under the supervision of Dr. Frank Foster, whose colossal "Illustrated Encyclopædic Medical Dictionary" but lately received well-deserved praise in our columns.[1]

The Meaning and the Method of Life: a Search for Religion in Biology. By GEORGE M. GOULD, A.M., M.D. London and New York: G. P. Putnam's Sons.

THE author of this remarkable book laments the willing ignorance of man as to his mysterious self, his origin, his destiny, and his relation to his surroundings, and criticises the prevailing agnosticism among educated folk as an "unmanly resignation," but strongly commends the attitude of those who exercise the "never-stilled faith" that life's riddle will be solved. Like all truly scientific students he strongly recommends the sympathetic study of facts, yet throughout this book, instead of carefully investigating nature in all her aspects, we find him speculating very fully and making large assumptions. Dr. Gould thinks that his book gives "the keynote and method of solution of the riddle." Very soon, however, the reader, as he proceeds to try to discover these, finds himself in a distinctly agnostic atmosphere in spite of the depreciation of this honestly assumed mental condition of many scientific men in regard to some of the problems dealt with, and detects that in numerous instances speculations are taken for proved facts. Thus, when speaking of the origin of the universe, he lays down as axiomatic truth that the "atoms, the essential elements are uncaused, did not originate at all, and least of all by any mental or intelligent fiat," and with a dogmatism startling even to an orthodox agnostic, says that "matter could not have been created." In regard to the origin of matter or to the beginnings of life the intellectually honest truth-seeker is content to say, and not in any spirit of irreverent agnosticism, "I do not know." Dr. Gould deifies life, as he says, "the God we see daily at work all over the globe is primarily and essentially Life," or, as he prefers to call Him, "Biologos"; and continues: "Under the microscope I found God at work and in biology revealing Himself so fast and so far as fate and His myriad difficulties allowed." In another place he asserts, "beyond all doubt not matter-born but matter-taming Biologos came to our planet from without," and yet agnostic-like he admits that "the subtlest and strongest human intellect can frame no faintest conception how intelligent life could have originated." We think by these extracts we have justified our critical position, but in saying so we feel that to do justice to the author each chapter would require a detailed criticism. Those on Partial Truths, Cytology, Ethics, &c., though containing many inconsistencies, are crowded with excellent and highly suggestive matter. To all students of the deeper and more abstruse physiological, psychological, and religious problems of the day a perusal of this book dealing with a search for religion in biology may be recommended.

[1] THE LANCET, Jan. 13th, 1894.

BRITISH GUIANA: REPORT OF THE SURGEON-GENERAL FOR 1892-93.

THE annual Report of the Medical Department (including under this term the medical institutions of the colony) for the year 1892–93 contains some observations which are worthy of being placed on record. The admissions to the various public hospitals of the colony during the year were 11,645, the largest number received in any twelve months since 1887, and there were treated in the hospitals altogether 12,591 persons. The percentage of mortality to the total number treated for the year was 14·6. The public leper asylums contained 382 inmates on March 31st, 1893. It is remarked that on all essential points the report of the Leprosy Commission in India meets generally with the approval of those acquainted with the subject. The views expressed in the Surgeon-General's report in regard to the contagion of leprosy are in close accord with those arrived at by the Indian Commission. There does not appear to be any ground for supposing that the ratio of lepers to population is increasing in the colony of British Guiana, and, according to the Surgeon-General's view, there is no necessity for any change in the policy which has been followed there—namely, that of inducing sufferers from the disease to voluntarily go to the refuge provided for them and of making them when there as comfortable as possible. Some changes and restrictions are suggested in the interests of the internal discipline of the leper asylum of the colony, but, it is added, not from any fear of injury to the public health.

There was a much higher mortality in the colony from pneumonia and catarrhal affections in 1892 than in 1891. This, as well as the increased sickness, is to be attributed to the influence of epidemic influenza. With reference to a quarantine station for the colony, provided with suitable and well-arranged buildings affording comfortable accommodation, which is nearly ready for occupation, and to a proposed ordinance for the medical inspection, isolation, and disinfection of infected or suspected ships and their crews &c., it is pointed out that it is quite practicable to carry out the object without any personal detriment or inconvenience further than would be entailed by the temporary detention of infected individuals at the station during a short period of observation. There is no essential difference between this method and the precautionary measures adopted in England, and it is to be regretted, perhaps, that it should bear the unfortunate name of quarantine, with the not unnatural prejudice attaching to it. Those temporarily detained would have medical aid at once available, which they could not obtain when scattered throughout the colony.

DONATIONS TO HOSPITALS.—Baron de Hirsch has forwarded donations to the following London hospitals:—City of London Hospital for Diseases of the Chest, £200; the Great Northern Central Hospital, £300 (in addition to the one already given); King's College Hospital, £300 (additional).

THE LANCET.

LONDON: SATURDAY, MARCH 17, 1894.

IT is our custom to take early notice of the Medical Register, containing as it does the roll of the profession in its authorised form. We have to congratulate the Registrar on its comparatively early appearance in the first half of March and on the general completeness and interest of the volume, which should be far more extensively diffused through the profession than it is. We have already been largely prepared for the main facts of the volume by the Medical Directory, which has the advantage of appearing with the new year; but the Register, after all, is the legal record, and to be out of this volume is, for all legal purposes, to be out of the profession. Many members of the profession fall out of it from sheer carelessness on their own part under the operation of Section xiv., in virtue of which the Registrar is empowered to remove the names of those of whose present address he has been unable, after due inquiry on his part, to satisfy himself. In some years as many as five or six hundred have been removed under this clause, many of whom are replaced after duly reporting their continued existence and address. In the last year 67 names have been so removed, but the annual removals, on an average of five years, are 210. Such removal is always annoying and sometimes inconvenient. It can easily be obviated by each member of the profession keeping the Registrar well advised as to any change of residence. Removal from the Register under the penal clauses is a much graver affair. It is satisfactory to find that under them only five names have been removed by the Medical Council in the last year, and that the average annual number of names removed from the Register for "infamous conduct in a professional respect" is only three, taking eighteen years into account, and for the last five years only four. Many medical men will think that this power of erasure might be used more freely with advantage to the public and the profession; but the small numbers are proof that in the great body of the profession there is a creditable standard of professional conduct.

Coming to the great question of the registered—viz., the number of registered members of the profession—we find what we had been prepared for by the Directory, a very solid addition to them. In the present Register there are no less than 31,644, as compared with 30,590—in other words, an addition to the names on the Register for the year of 1054. The Directory gives the numbers in the profession at home and abroad as 31,772—i.e., 128 more. Lord PLAYFAIR will feel more relieved than ever of the fear that the public may be deprived of the needful number of medical men. It is possible that the ever increasing demands of medical education and of the examining boards may reduce the numbers of the Register; but so far there is no sign of any such process, much less of its being carried to a serious extent. The new registrations amounted in all last year to no less than 1579. This is the largest number that has been registered in any year, exceeding by 66 that of last year, which exceeded its predecessor by 168. The General Medical Council may feel fortified by such flowing numbers in demanding that the standard of the preliminary examinations of the profession shall be raised yet higher. It is instructive to notice the parts of the United Kingdom in which these new registrations have taken place. They are thus distributed: in England there are 770, in Scotland 638, and in Ireland 171. We shall not be wrong in assuming that men register mostly in the part of the United Kingdom in which they are educated and become qualified. It will be seen that in Scotland there are only 132 fewer registrations than in England. It is interesting to learn from Table E that since the beginning of the registration of medical men by the Act of 1858 50,823 have been registered: 33,665 in England, 10,710 in Scotland, and 8448 in Ireland, of which number 21,179 have dropped out of the Register from death or other causes. It is gratifying to learn that the Register, in spite of much diligence of search, shows a mortality in the profession of only 546 of a total of 30,590, or a percentage of 1·78; but we have, unfortunately, no very accurate way of arriving at the exact mortality in the profession. This is shown by the fact that the deaths given in the Medical Directory for 1894 are 639, or 93 in excess of those given in the Medical Register, or a percentage of 2·08. When the scattered position of the registered practitioners of the empire is considered (3209 practising abroad and 2426 being in the naval, military, and Indian medical services), it may well happen that a number of deaths go unreported. Be this as it may, the substantial fact remains that the profession has increased in each of the last two years roughly by a thousand members and shows no immediate sign of any falling off in the rate of increase. We may notice in conclusion a section of the Register that is comparatively new—viz., the Colonial List. It comprises 25 names, of which 20 hold Australian degrees, mostly those of the Melbourne University, 3 Licenses or Degrees of the University of Bombay, 1 of the Medical College of Ceylon, and 1 a Medical and Surgical Degree of the University of Madras. We need scarcely say that the Register contains much other information in addition to that which we have analysed, including copies of the Medical and Dentists' Acts.

THE Croonian Lecture was delivered on March 8th to an appreciative audience at a meeting of the Royal Society by Professor RAMÓN Y CAJAL, who selected for his subject the Histology of the Nerve Centres. His choice was a congenial one, for he is well known as one of the most careful and intelligent workers in this difficult department of microscopical research. The histology of nerve tissue, commenced by EHRENBERG, who was the first, in 1833, to describe the nerve fibres, and who soon was followed by REMAK, HANNOVER, and others, received a great impulse in the discovery by DEITERS that all nerve cells possess two kinds of processes, the ramified, or protoplasmic, and the non-ramified or axis cylinder, which is continuous with a nerve fibre. A further advance, though resting on deduction rather than on observation, was made by GOLGI, who invented many improvements upon the methods of making and preserving sections that were previously in use. The conclusions at

which he arrived were that the protoplasmic processes of nerve cells end by free extremities in the grey substance of the cord; that the functional or conducting processes of the nerve cells give off, as they traverse the neuroglia, very delicate collateral branches, which divide and subdivide; that there are two kinds of conducting processes—a motor type, characterised by the presence of an axis cylinder, which retains its individuality and is continuous with a fibre of the white substance, and a sensory type, the axis cylinder of which, undergoing manifold division, does not preserve its individuality, but is lost before it escapes from the grey substance of the cord; and that the grey matter contains a network of fibres derived from the ramifications of the sensory fibres, the ramifications of the cylinder axis of the sensory type, and the collateral branches of the protoplasmic processes of the motor corpuscles. M. GOLGI was also of opinion that the protoplasmic processes played the part of nutritive elements, since they were in intimate relation with the vessels and cells of the neuroglia.

The protracted attention bestowed by Professor RAMÓN Y CAJAL upon the histology of the nerve centres, in which he employed the methods of GOLGI supplemented by the study of nerve development, has led him in the main to support the views of that observer, though he admits their truth with some modification. He thinks, for example, that axis cylinders as well as the protoplasmic processes terminate in the grey substance by perfectly free extremities, and that the protoplasmic processes, like the substance of the nerve cells, are subservient to the conduction of nerve currents. Whilst admitting the existence of nerve cells with short, and of others with long, axis cylinders, he disagrees with GOLGI in attributing distinct functions to them, for he has found cells with long axis cylinders—regarded by GOLGI as distinctively motor—in organs like the retina and the olfactory bulb, which are certainly sensory in their function, and, on the other hand, cells with short axis cylinders, which GOLGI thought were sensory, but which are to be found in all nerve centres. The connexions established between the fibres and the nerve cells are effected by simple contact or by a kind of articulation between the varicose arborescent processes of the axis cylinders, on the one hand, and the protoplasmic processes of the cells, on the other. The cerebro-spinal axis may thus, as WALDEYER suggested, be regarded as a structure composed of superimposed nervous units or neurones. He has also observed that the functional, or axis cylinder processes may divide like a capital T on their entrance into the white substance, thus forming two or more medullated fibres.

The researches of RETZIUS, LENHOSSEK, and RANVIER have demonstrated that the nerve cells of the spinal ganglia present a single process which divides into two branches, one of which, the external, generally thick, is directed towards the periphery, and the other, the internal, which enters the sensory or posterior root, runs to the spinal cord. According to Professor RAMÓN Y CAJAL, the last-named branch in birds and mammals does not enter the grey substance directly, but bifurcates in the posterior root, giving off an ascending and a descending branch. Of these branches, which give off many collateral fibrils in their course, one may be followed to a considerable distance peripherally, whilst the other ends centripetally in the grey substance by means of varicose and pericellular arborisation in the grey matter of the cord. Of the collateral fibrils some are long, others short. The latter traverse the substance of Rolando, and form a network of delicate fibres which surround the cells of Clarke's column and of the caput cornu. The long collaterals, forming a thick fasciculus, traverse the posterior cornu and break up in the substance of the anterior cornu. It is reasonable to suppose that they constitute the ordinary path of reflex impulses.

Professor RAMÓN Y CAJAL recognises four kinds of nerve cells in the grey matter of the cord—viz, firstly, the commissural cells, or those of which the axis cylinder contributes to form the anterior commissure in passing to the antero-lateral column of the opposite side; secondly, the cells of the columns, the axis cylinders of which, either by inflection at right angles or by a T-shaped division, become continuous with a fibre of a white column of the same side; thirdly, the radicular, or motor, cells, the functional process of which constitutes the anterior roots; and, lastly, the pluricordonal cells, which possess a complex axis cylinder and, though at first simple, divide into two, three, or a larger number of fibres for the columns of one or both sides.

If we follow the course of a sensory impression, we find that it is conducted by the posterior radicular fibres to the point where these bifurcate, and that it then divides into an ascending and a descending current. If the stimulus is feeble, it may travel by the long, or reflex, motor collateral branches which arise from the first part of the ascending and descending branches and may be transmitted to the motor cells of a limited segment of the anterior cornu; but if the stimulus is more powerful, besides the reflex motor fibres, it will travel along all the ascending and descending branches, and the whole system of the short collateral branches will be affected. In that case the impulse will arrive at Clarke's column, where many short collaterals terminate, and by the axis cylinders of the cells situated in this column will reach the ascending cerebellar path of the cord. The propagation of a sensory impression to the brain necessitates of course, the intermediation of certain intermediary neurones that he names "central sensory cells." These are found in all parts of the cord, and their conducting processes cross either in the cord or in the medulla oblongata or at a higher plane. We have not space to follow Professor RAMÓN Y CAJAL in his interesting account of the olfactory nerves and of the retina. It is sufficient to say that in both organs he finds that the nerve cell presents a receptive apparatus for currents, which is represented by the dendritic processes and the cell body; secondly, a transmissive apparatus, represented by the axis cylinder process; and, thirdly, a distributive apparatus, represented by the terminal nerve arborisation.

So, too, it would be too long to follow his description of the structure of the cortex of the cerebellum and of the cerebrum; but, speaking generally, he believes that in the organs where the origin of the stimulus is established the cells are polarised—or, in other words, that the nerve current always enters by the protoplasmic apparatus or the cell body, and that it issues by the axis cylinder, which transmits it to a new protoplasmic apparatus. The complex differentiation of the protoplasmic mass in such

cells as those of the cerebral cortex and of PURKINJE, with their basilar expansion, radially directed protoplasmic stem, and terminal pouches, appear to be destined to enable each of this kind of cells to establish distinct contacts with different categories of nerve fibres; the elements, on the other hand—which, like the spongioblasts of the retina or the corpuscles of the spinal ganglia, have no protoplasmic processes—are in relation only with a single species of nerve fibre. In these elements the apparatus of reception is represented by the protoplasmic mass alone. Hence it follows that the more numerous, ramified, and differentiated are the protoplasmic processes of an element the greater is the number of cells to the influence of which it is subjected; and again, the longer a nerve process and the greater the number of its ramifications, both terminal and collateral, the larger will be the number of corpuscles upon which it can act. From this double point of view—the differentiation and number of protoplasmic processes and the enormous number of collateral and terminal nerve fibrils—no element approximates even distantly to the pyramidal cells of the brain. Of course many of Professor RAMÓN Y CAJAL'S statements and conclusions are matters generally accepted by physiologists, but he deserves great praise for the lucid manner in which he has dealt with a confessedly difficult subject, and especially for the advances he has made in our conception of the structure and functions of the nerve processes and their ramifications.

THE Bill which the London County Council has introduced for the consolidation and amendment of the London Building Acts is exciting the attention of architects, surveyors, and the owners of land in London. It is not unnatural that there should be a wish on the part of these professions and particularly of the owners to use the land in any way they like and without restriction, and it is equally natural, nay, it is the duty, of the London County Council as the central metropolitan health authority to put such limitations on building operations as may be necessary in the interests of the health of the London population. London has for years been at a serious disadvantage in respect of its Building Acts. While other towns have been able to arm themselves with sufficient powers London has been exceptionally treated, and in the absence of any provisions authorising it to make by-laws as to open space about buildings has been obliged to go to Parliament on each occasion that amendment has been desired. The London Acts have been especially faulty in one particular; they have not provided that an open space in proportion to the height of the building should be required, and in the absence of this important principle it has been possible for the owner of any house in a street which has existed before the year 1862 practically to raise his house to any height he liked provided that he was not restrained by an action at law on the part of others whose light and air he excluded.

It is this principle of open space in proportion to height for which the London County Council seeks recognition, and certainly everyone interested in the health of Londoners will wish them success. Whether the Council will be able to secure such ample space as their Bill now demands is obviously doubtful in view of the strength of the opposition which will be offered; but on the point of principle the Council is undoubtedly right.

An interesting paper on the London Bill was read this week at a meeting of the Royal Institute of British Architects by Mr. ARTHUR CATES, who characterised the Council's demands as "oppressive, destructive, and undesirable in practice." The Council desires that the height of a building should be limited, so that it shall not extend beyond a line which, drawn from the rear of the plot of land on which the house stands, makes with a horizontal line an angle of forty-five degrees. This, in fact, is to require that the length of the plot of land shall be equal to the height of the house. Mr. CATES urges that the house should be allowed to be twice as high as the land is long, and probably the Council will, in dealing with land already built upon, have to make some abatement of its claim to meet the views of its opponents.

With respect to land not previously occupied by buildings, the Council will, we trust, stand firm. Its demand will not interfere with any acquired rights, if such exist, and it is important that, as London spreads from the centre to the periphery, a greater space between lines of building should be insisted on, and thus greater opportunity given for air to reach the more densely inhabited parts.

Another provision which received Mr. CATES'S criticism is that which requires houses standing in very narrow streets to be set back when they are re-erected. A member of the London County Council, Mr. W. W. BRUCE, showed the necessity for the adoption of this practice. London has spent between two and three millions of pounds in clearing unhealthy areas, undoubtedly to the great advantage of the metropolis, but equally to the distress of the ratepayer, and certainly some serious effort ought to be made to limit the growth of slums which, as Mr. BRUCE ably demonstrated, was due to the want of this provision. In the City of London we believe that the Commissioners of Sewers, when old premises are about to be rebuilt, always consider whether the street should be widened by the setting back of the new building, and if they determine such widening to be necessary, they compensate the owner for the step taken, which evidently is the proper course, and the London County Council should seek similar powers.

Perhaps the most useful clause in the Bill is that which proposes to put a limit upon the increase of the height of existing houses to a greater extent than the width of the street. It will do so much to preserve the health of Londoners that it ought to be accepted by Parliament, or with such trifling modification as the necessities of the case may dictate. It is certainly to be hoped that the urgent necessity of some such requirement as this will be recognised by the opposing forces, and that it will not be exposed to danger when it comes before Parliament. Other amendments, the need of which is being increasingly felt, will put some control over the attempted ventilation and lighting of flats from small shafts surrounded by the building they are intended to benefit.

As a whole the Bill is excellent, and speaks well for the London County Council's recognition of the need of health requirements. For this London is no doubt largely indebted to the fact that the chairman of the Building Act Committee is a well-known member of our profession, Dr. G. B.

LONGSTAFF, whose clear common sense and excellent judgment have been invaluable in the preparation of so complex a measure as the London Building Bill.

WE have published in the recent issues of THE LANCET[1] an epitome of the Morrison Lectures on Insanity delivered before the Royal College of Physicians of Edinburgh by Dr. BATTY TUKE. The lecturer made it his object to study the methods of action of some of the proximate causes of insanity, restricting himself mainly to over-exertion of the brain as productive of insanity, and more especially to observation of its action during the earliest stages of the condition, when the deranged cerebral apparatus was in a state to react to therapeutic measures. Dr. BATTY TUKE has for many years held a foremost position as a trustworthy worker in the domain of cerebral pathology, more especially in its relations to insanity. It is a far cry in pathology from demoniacal possession to impaired kinæsthesis; from disease of an abstract entity called "the mind" to morbid processes occurring in the convolutions of the brain. Yet these descriptive appellations have been applied to the condition which is generally spoken of as insanity. The physical basis of mental phenomena is no longer questioned; and with regard to it, thanks to honest and fearless workers, we live in times when the knowledge of what not so many years ago was pointed to as "the unknowable" would seem to be near at hand. In his all-important work on the Functions of the Brain, Dr. Ferrier says, "we have many grounds for believing that the frontal lobes, the cortical centres for the head and ocular movements, with their associated sensory centres form the substrata of those psychical processes which lie at the foundation of the higher intellectual operations;" and again "there are centres for special forms of sensation and ideation, and centres for special motor activities and acquisitions, in response to, and in association with, the activity of sensory centres; and these, in their respective cohesions, actions and interactions, form the substrata of mental operations in all their aspects and all their range." The investigations of MEYNERT and RAMÓN Y CAJAL go to show that, with some limitations, it may be affirmed that the psychical functions are inseparably associated with the presence of the pyramidal or psychical cells. Taking these as the generally accepted lines upon which normal psychical operations are based, Dr. BATTY TUKE went on to remind his audience that in the brains of those dying insane the naked-eye evidence of change was in the line of the Pacchionian and the Rolandic area from which it gradually faded away anteriorly, posteriorly, and laterally. He says: "The focus of diseased action round the Rolandic fissure sends downwards from certain of its zones of cells axis cylinders which are in connexion with fibres forming the pyramidal tract, which can be traced through the inner capsule to the crusta. These are connected with the skeletal muscles and the movements of the eyes, mouth, face, tongue, pharynx, and larynx." He pointed out that there were the strongest reasons for believing that kinæsthesis, transmutation of sensory stimulus into motion, occurred in the pyramidal cells of the Rolandic area. The organs of this area were the most active, though not the only transmutators of energy, and therefore the most liable to injury. If the cells of this area were affected by any evil influence, as by that of over-exertion, we had a right to look to it for the effects of impaired transmutation; and this expectation coincides with Dr. TUKE'S experience; for in the cases which he had examined which had succumbed earliest after the incidence of insanity, none of the cells of the anterior two-thirds of the frontal convolutions and of the posterior occipital gyri were so deeply implicated (by pigmentation and granular degeneration) as those of the Rolandic area. In the course of almost every case of idiopathic insanity—i.e., insanity due to over-exertion of the brain—there is a fairly well-marked prodromal period indicating the diseased balance between nutrition and function in the kinæsthetic area: and as the impaired function of the cells of this area makes itself felt on the cells of ideation centres, whether by increased or lessened conduction of energy, or by modifications of their nutritive influences, there was reduction of the structural integrity and perversion of psychical acts. On the rapid removal or non-removal of the causes of implication of the cells of the Rolandic area depends the issue in cell-recovery or prefrontal atrophy.

We have here indicated briefly, and in one direction, the nature of Dr. BATTY TUKE'S constructive pathology of insanity; but we recommend a study of the lectures themselves to those who take an interest in physiology and pathology generally not less than to those medical men whose duties, whether as general practitioners or alienists, bring them in contact with the insane; for they will find in these lectures not only a critical exposition of the cerebral and general physical conditions under which insanity is developed, but also a mine of practical information and suggestiveness on a subject which has, up to the last fifty years, depended for much of its interest upon the mists of ignorance and superstition in which it was enveloped. These lectures appear to us to demonstrate the grounds upon which insanity has now come to be regarded as a symptom of a diseased condition, and not as in itself a disease; and they also indicate the rational character of the basis upon which the treatment and care of the insane are now carried out. They afford, moreover, indisputable evidence of the value of experimental research in the interests of humanity, and their teaching ought to be a source of comfort as well as of warning to those who run a risk of suffering from over-exertion of the brain.

IT is not our intention to discuss here whether the evidence as to the infectivity of phthisis is sufficient to justify us in regarding the disease as directly communicable from person to person, but since it is, for the purposes of our remarks, necessary to take up some definite position, we propose to assume that under certain conditions—but conditions which are rarely all present—the disease is occasionally so transferable. We will also assume that in the case of persons predisposed to phthisis some risk is incurred by their inhabiting a room occupied or recently vacated, by a phthisical patient. It will be seen in our notice of the annual report of the medical officer of health of Bollington that, at the instigation of the Cheshire County Council, the local board recently brought forward a proposal,

[1] THE LANCET Feb. 10th, 24th, and March 10th.

which was defeated by only one vote, to include phthisis among the notifiable diseases. The Bollington Local Board is, we believe, not the only sanitary authority in Cheshire and the counties surrounding it which has taken the suggestion of the county council into serious consideration, and some of them have, we learn, gone so far as to approach the Local Government Board for sanction to include phthisis as a disease notifiable under the provisions of the Infectious Diseases (Notification) Act, 1889. It does not, however, appear that there is by any means unanimity of opinion among the advocates of notification as to what course is to be adopted as regards the cases of phthisis so notified, nor is it quite clear whether it is the intention of any of these authorities to embrace tuberculous affections of organs other than the lungs in their operations. As far as we can learn there is a tendency among the sanitary authorities who advocate notification to divide themselves into two camps, the one proposing only to interefere after the death of a patient from phthisis, the other animated with a desire to class the disease as "infectious," and apparently to deal with it in the same manner as other infectious diseases. We must confess we have as yet seen no detailed account of what the supporters of this proposal have in view; but if phthisis is to be definitely scheduled as an infectious disease in our statute book it would certainly appear that it will become—at any rate, in process of time—amenable to all the provisions as regards infectious diseases in the Public Health Acts. If this be so, it is hardly possible to contemplate the result without some misgivings. Let us take, for instance, the case of a conscientious young man just about to enter life, and who is considered by his medical adviser to be manifesting the signs and symptoms of phthisis. The case is in due course notified, and the patient becomes in his own eyes a leper, destined to an early death, and is in the eyes of the community a danger to the public health. More than this, he would, if our supposition be correct, be in constant dread of the Public Health Act, 1875, and the Infectious Disease (Prevention) Act, 1890; his chances of marriage would have vanished for ever, and the insurance societies would refuse to consider his proposal. If, too, his removal to some isolation hospital was not insisted upon, and he was allowed, with the constant accompaniment of a spittoon provided with a disinfectant, to travel for the benefit of his health, he would, nevertheless, feel bound to notify his leprous condition to all hotel-keepers in order that disinfection of his room might be properly carried out. Add to this the by no means impossible circumstance that the diagnosis was erroneous or that the patient recovers—at any rate, for a time—and we have some faint indication of the result of dealing with phthisis as an infectious disease within the meaning of the sanitary Acts. Possibly, in order to obviate erroneous diagnosis, it might be held to be a *sine quâ non* of notification that the existence of the bacillus of tubercle should be demonstrated; but, under the present conditions of medical education, we are obviously here face to face with an impracticability. Errors of diagnosis in dealing with infectious diseases such as scarlet fever, &c., are naturally to be deplored; but the consequences would be but small as compared with the same error in dealing with phthisis. This question of the notification of phthisis is one which, if we may judge from a leading article in the *Morning Post*, is beginning to attract public attention, and we are afraid that Mr. VACHER'S letter in answer to that article hardly places the matter in its right light. To pronounce that "consumption is infectious through the excretions of the patient, like typhoid fever or cholera," is, we think, perhaps hardly a desirable way of explaining the position to the public. It is certainly true that pulmonary tuberculosis is probably communicable mainly by means of sputa, and intestinal tuberculosis by the excreta, but nevertheless we are hardly prepared to regard a tuberculous motion in quite the same light as "rice-water" evacuations. Although we speak in this way we fully recognise the importance of much good work which is being done with regard to limiting the spread of phthisis, and more especially do we think that the recent practice of Dr. NIVEN in sending round every year to each house in Oldham leaflets setting forth how best to minimise the risks of infection is likely to be productive of good results. The question, however, is rather whether the energy proposed to be devoted to notification, &c., might not—at any rate, at present—be expended in a more profitable manner by a more rigid control of the conditions under which our milk supplies are secreted, drawn and stored, and by educating the public as to the influence which overcrowding, darkness, dampness, want of ventilation, &c., are believed to have in predisposing to the disease; in fact to impress upon them the point that the susceptibility of a person to phthisis is at any rate as important a factor as the exposure to infection. Our object has, however, rather been to utter a note of warning against any too precipitate scheduling of phthisis as an infectious disease, without adequate realisation of the issues involved, and a due regard as to what effect such a course might have in creating on the part of the public a bias against the notification, not only of phthisis, but even of the more directly infectious diseases. At any rate, we think that the question may be very well postponed until the members of the Royal Commission on Tuberculosis have issued their report.

Annotations.

"Ne quid nimis."

THE PROPOSED TEACHING UNIVERSITY AND THE MEDICAL CORPORATIONS.

ON Monday and Tuesday next respectively the Fellows and Members of the Royal College of Surgeons, and on Monday the Fellows of the Royal College of Physicians, are summoned to consider the position of the Royal Colleges with regard to the proposals suggested by the Commissioners appointed to consider the Draft Charter for the proposed Gresham University in London. The Commissioners have taken in the widest possible sense their mandate "to consider, and, if you think fit, alter, amend, and extend, the proposed Charter ..... so as to form and report to us a scheme for the establishment under charter of an efficient Teaching University for London." In the first place, they have recommended that the changes suggested by them should be effected, not by charter, but by legislative authority and by the appointment of a Commission with statutory powers. On the views of this Statutory Commission will depend, so far as the proposed University is

concerned, the position and relations of every institution and teacher who is connected, however remotely, with higher education in the metropolis. This Commission is "to receive the assents of the various persons and bodies, other than the Crown, the Convocation, the Faculties, and the Academic Council, who are to nominate to seats upon the Senate." Of the sixty-five senators, two will be appointed by the Royal College of Physicians, two by the Royal College of Surgeons, and one by the Society of Apothecaries. The Senate will obviously be too large a body for any concerted action, and its work will be mainly performed by committees. The corporations, therefore, are sure of a substantial representation on any committee of medicine which can be formed from the members of the proposed Senate. The time has come when the Royal Colleges will have to admit the existence of the Society of Apothecaries. We have always protested against the blindness of the two corporations in ignoring the fact that there was a third licensing authority doing vigorous work, and we hope that, under the auspices of a Metropolitan University, a scheme for a more or less complete fusion of medical examinations and a reconciling of interests may take place. The University is recommended to enter into arrangements with the corporations for conducting in common certain parts of the examination for degrees; and this, we suppose, will at once determine these bodies in accepting the seats offered to them on the Senate. It is, however, necessary to point out that the Academic Council of sixteen, which will practically be elected by the teachers, will be the effective and determining body in the University. To this body will be entrusted the duty of regulating—subject to the ordinances of the University—the teaching, examinations, and discipline of the University, and of determining what teachers shall be recognised as university teachers, and to what faculties they shall be assigned. It is quite clear, therefore, that, whilst the professional corporations are asked to send representatives to the Senate who may discuss and, to a certain extent, guide the simplification of the existing system of examinations, the teachers from the schools will form the real authority by electing the Academic Council, and it behoves each medical school to see that its interests are not sacrificed by this council of whom only three out of sixteen will represent the faculty of Medicine.

THE INTERNATIONAL MEDICAL CONGRESS.

DATING from Rome the 11th inst., our own correspondent writes:—"For those who anticipate an inconveniently crowded gathering it must be reassuring to find that such is not the forecast of the central committee, who have now added to the facilities already available for intending 'Congressisti' quite another set of conditions, enabling persons outside the profession to appear at the sittings. According to a *communiqué* just received from the 'Segreteria Generale,' the committee have resolved that, besides the physicians and surgeons and graduates in cognate sciences, 'all those persons who take an interest in the works of the Congress itself' will, on payment of 25 francs, be entitled to a member's ticket with all the privileges it implies, including participation in the proceedings of the sections. The ladies of the 'Congressisti' (so runs the *communiqué*) and the grown-up members of their families will have to be introduced by a 'Congressista' to obtain their special ticket (price 10 francs). All those, it continues, who are furnished with the said tickets will be empowered to assist at the meetings, and at the *fêtes* held in honour of the members proper. To these latter entertainments, however, exceptions will be made in at least two instances: (1) At the banquet given by their Majesties King Humbert and Queen Margaret at the Palace of the Quirinal, when only the *corps diplomatique* accredited to the Court, the President and Vice-presidents of the Congress, and those officially representing foreign governments will be invited; (2) at the garden party to be held in the grounds of the Quirinal, when invitations will be limited to 3000. Another and most attractive feature of the Congress will be the 'Esposizione Internazionale di Medicina e d'Igiene,' which, as already noted in THE LANCET, will be held not only in the 'gran serra,' the ground floor and certain of the upper floors of the Fine Art Exhibition buildings, but in the space just cleared beside the Eldorado and in the vast *locale* behind the said buildings themselves. The success of the 'Esposizione' will, it is asserted, far exceed all expectations. The exhibitors will number over 500, while many claims for permission to exhibit have had reluctantly to be disallowed because there is no more room available (*non vi è più spazio disponibile*). The majority of the 'Espositori,' and also the most important as to wares and articles placed *en évidence*, are the Germans. The committee has completed the arrangements formerly mentioned for the electric illumination of the 'Esposizione,' as the grand jury must hold its sittings in the evening so as to leave time for its members to assist at the Congress during the day. Acknowledgment may here be made of the engineers, Signors Bentivegna and Berlenda, to whose skill and energy, seconded by an admirable *personnel*, the arrangements are due. Among the exhibits those of the Central Committee of the Italian Red Cross will be peculiarly attractive. They will include a mountain hospital fully equipped and also a completely appointed sanitary flotilla and floating ambulance for service on the great rivers and lakes of Europe. An elaborate specimen of an ambulance train will further be on view. In addition to these the exhibits of the Knights of Malta will have special interest, representing as they do for the first time, certain useful innovations in the *matériel* for the care and cure of the wounded in war."

FLUSHING AND BLUSHING.

AT first sight there is not much difference between flushing and blushing, and, as far as the actual mechanism is concerned, this is true enough. The difference lies in the cause rather than in the character of the heightened colour. A blush is always the outcome of mental emotion; the outward expression either of shame, shyness, or modesty. Flushing arises independently of mental emotion and may be a symptom of a large number of morbid conditions of which the reflex flushing after meals from dyspepsia is one of the most common and familiar, while that which constitutes part of the pre-convulsive aura of epileptics is the most important. Blushing is usually confined to the sides of the neck and face, especially the cheeks, and this localisation has been explained by the part being always exposed; but this is not all, as otherwise our hands would also blush, and Darwin suggests that the redness is determined to the face by the amount of attention which has been directed to the face throughout innumerable generations. But blushing is by no means confined to the face, and in many cases extends to the chest and shoulders, and even the whole body has been known to redden under violent mental emotion. While the blush of shame in anyone and the blush of shyness in the child or of modesty in the young girl may be considered a normal expression of the emotions, there are many individuals in whom blushing has become so easily excited and frequent as not only to introduce into their existence a positive discomfort, but to render them actually unfit for the business and social conduct of life, and blushing becomes a positive disease. There is no doubt that self-consciousness plays an important part in the production and perpetuation of this unpleasant manifestation, and, moreover, that the actual reddening of the skin is only one of a series of symptoms which may accompany or precede the blushing, mental confusion, a feeling of helplessness, palpitation, inability to speak and hanging down of the head, casting

down the eyes, constriction of the throat, and, in extreme instances, a perfect panic is experienced and the face is buried in the hands. The consciousness that the circumstances are likely to produce blushing is of itself a determining factor, and even the mention of the word is sufficient in some cases. Although this hyper-sensitiveness is more frequent in the female sex, it is by no means confined to it, and clergymen, soldiers, and even artisans have been disabled from their occupations by it. The importance of the mental element is demonstrated by the fact that the victims of this propensity seldom blush in the dark, while they are particularly likely to do so in the presence of the opposite sex or if they hear any remark about themselves, especially if it is in regard to their personal appearance, and even when alone, if they recall instances in which they have acted foolishly. It follows from the preceding considerations that the treatment of such a condition must be twofold: one to improve the general health and vigour of the nervous system; the other directed towards developing a more healthy mental attitude. Success will not be very conspicuous where there is a strong family predisposition and the father or mother have been habitual blushers. In such cases, the children should be taken in hand from an early age, and by careful mental training prevented from developing the morbid self-consciousness which is so easily acquired and so difficult to overcome. In the case of boys, also, attention should be paid to the condition of the prepuce, lest habits of masturbation be developed. In all cases of this kind where there is an easily disturbed equilibrium of the nervous system, the possibility of some peripheral irritation being at the root of the matter should be borne in mind, and especially is this the case where the source of irritation is about the head and neck—e.g., errors of refraction, post-nasal growths, wax in the ears, enlarged glands in the neck, &c.; but more distant defects, such as ovarian or uterine irritation, gastro-intestinal catarrh, and the like, may also be etiological factors. In women particularly, feeding systematically and at short intervals is often necessary. Neurotic subjects require frequent feeding, though the aggregate quantity is not necessarily large. Drug administration is the least important part of the treatment, and is necessarily more indirect than direct. Small doses of arsenic are sometimes useful in irritable conditions of the vaso-motor nerves; but the physician will do better to rely on a carefully-planned treatment, both mental and physical, on the lines laid down.

DISTRESSFUL STUDENTS.

IT is in no spirit of flippancy that we apply the epithet "distressful" to the students of the Royal College of Surgeons in Ireland, for they seem to us to have made in their recent memorial to their President an excellent claim to the adjective which a popular lyric has made peculiarly Irish. Their grievances, as set forth by themselves, are four in number. They consider, firstly, that the enforcement of an old rule which came into vogue in 1886, requiring them to pay for and attend a supplemental course of lectures on subjects in which they have been rejected, weighs hardly upon them, because they may have to wait twelve months before an opportunity occurs to attend such a supplemental course. This delay, with its serious concurrent expense, has not, they say, to be borne by the students of Edinburgh or of London, for in Edinburgh no such supplemental course is exacted by the authorities, and in London, either at the hospital schools or such recognised private schools as that of Mr. Cooke, courses of lectures are always in process of delivery, and the long waiting does not occur. The second and third grievances deal with the scale of the College fees and are supported by a tabulated statement comparing the examination fees for the degree of Licentiate of the Royal Colleges of Physicians and Surgeons of Ireland with those to be paid for the degree of Licentiate of the Royal Colleges of Physicians of London and Edinburgh; of the Royal Colleges of Surgeons of England and Edinburgh; of the Faculty of Physicians and Surgeons, Glasgow; and of the Society of Apothecaries, London. This table shows the Irish students' fees to be 15 per cent. in excess of those paid by the London student to the Conjoint Board, nearly 50 per cent. in excess of those payable by their Edinburgh brethren, and four times as large as the fees of the Licentiates of the Society of Apothecaries. Their last grievance is that the accommodation provided for them at the school is palpably deficient. We are certain that the President and Council of the Royal College of Surgeons in Ireland will turn an attentive ear to the respectfully worded complaints of their students. The first grievance is one that could be easily remedied and is, under present conditions, a very substantial one. In this age of competition failure must be penalised, but the enforced loss of a year's time may often be too severe a penalty for the case.

DECREASE OF PRISON POPULATION.

THE Rev. W. D. Morrison, in his recent letter to *The Times*, and again in his letter printed in our last issue, appears to lose sight of the fact that the Census Report merely discusses the possible and probable cause of the marked decline in the number and proportion of the prison population between 1881 and 1891. It makes no attempt to enunciate any theory as to the increase or decrease of crime, and Mr. Morrison's assertion that "the dimensions of the prison population are taken as a test of the movement of crime" is simply groundless. It is true that the Census Report refers to the marked reduction in the police estimate of the number of the criminal classes (from 71,637 in 1880–81 to 51,095 in 1890–91) as one of the probable causes of the great decrease in the amount of the prison population; Mr. Morrison, however, is perhaps too much of a pessimist to recognise this fact—at any rate he ignores it in all his letters. In his letter in our last issue he quotes from the Judicial Statistics the numbers of "commitments" to local prisons in the years 1881 and 1891, which appear to include those "remanded," "discharged," "committed for trial," and "committed in default of payment of fines," which are in no sense sentences of imprisonment; but he gives no ground for using these misleading figures or for preferring them to those used by the Registrar-General, in his letter to *The Times*, representing the number of sentences to imprisonment, although reference to the pages of the Judicial Statistics from which those figures were quoted was given in the letter. To quote "commitments for trial," for instance, as committals to prison, in relation with the movement of prison population, in preference to sentences to imprisonment, as quoted by the Registrar-General, certainly appears to involve a misleading blunder. Then, as to Mr. Morrison's avowed preference for the number of convictions as a test of the movement of crime, he completely ignores the fact, abundantly proved by the tables given in the Judicial Statistics, that the increase of convictions is wholly due to offences against the Education Acts, Licensing Acts, Local Acts and By-laws, Excise Acts, and Ways Acts, while those offences which can reasonably be classed as "crime" have shown, on the other hand, a marked decline. This is corroborative of the police report of the decrease in the numbers of the criminal classes. This aspect of the case was referred to by "Plain Figures" in his letter to *The Times* in defence of the statements in the Census Report, but is unnoticed by Mr. Morrison. If Mr. Morrison really wishes, as he says, to come to close quarters with the Registrar-General's statistics, he should produce some real evidence to disprove the conclusions arrived at in

the Census Report that "the diminution in the number of prisoners is attributable partly to the falling off of the numbers of the criminal classes and partly to the substitution of other forms of punishment for imprisonment in cases of petty offences." There is, moreover, no ground for Mr. Morrison's statement that he has "shown in *The Times*, in opposition to the Registrar-General," that between 1881 and 1891 the average length of sentences has been reduced by about 24 per cent. The statistics given in the "Judicial Statistics" do not afford the means for correctly calculating the average length of sentences of imprisonment in 1881 and in 1891. Moreover, the method adopted by Mr. Morrison for arriving at this conclusion is fallacious on many grounds—among others, because it is based upon the misleading "commitment" figures, and because it assumes that the reduction of the prison population is solely due to the reduction of "commitments" and to the reduction of sentences of imprisonment. This assumption is the more unwarrantable because it ignores the possibility of any effect from the reduction in the numbers of the criminal classes.

THE KNEE-JERK IN DIABETES.

IN a recent number of the *Neurologisches Centralblatt* Dr. Karl Grube has published an interesting communication on this subject. Bouchard, in 1882, was the first to call attention to the absence of the knee-jerk in diabetes, and his work, published in 1884, was followed by an account of the investigations of numerous observers, who found the phenomenon absent in a varying percentage of the cases examined. Thus Bouchard himself found it absent in 36·9 per cent., Auerbach in from 35 to 40 per cent., Eichhorst in 20·9 per cent., Marie and Guinon in 37·5 per cent., Neviere in 40 per cent., and Williamson in 50 per cent. As regards the prognostic value of the absence of the knee-jerk in diabetes, different observers have held different views, some attaching a grave importance to its absence, others looking upon it as being without special significance. Dr. Grube has observed the condition of the knee-jerk in 187 cases of diabetes mellitus, and his conclusions differ from those of most previous observers. In the first place, he puts altogether on one side 56 of his cases, as he only had an opportunity of examining them once. He does not, therefore, regard the results as sufficiently certain and definite to adduce in reference to the question at issue. In the remaining 131 cases he had opportunities of making repeated examinations. To elicit the phenomenon the method introduced by Dr. Buzzard was usually employed as being satisfactory and at the same time admirably suited for the examination in private practice. This method consists in placing the leg at an obtuse angle with the thigh, when by striking on the tendon through the clothes and without any exposure a knee-jerk is easily obtained and the slightest contraction of the quadriceps extensor is felt by placing the hand on the thigh above the knee. Jendrassik's method of so-called reinforcement was also used. Among the 131 cases, 113 patients exhibited a normal condition of the knee-jerk and 5 an increased activity. In 3 of these 5 patients the condition is said to have been one, not of diabetes, but of glycosuria in neurasthenics, and the increase is ascribed to the neurotic condition. Amongst the 113 cases in which the knee-jerk was normal 9 were those of the most severe form of diabetes, and in some of them there was a notable increase in its activity during severe but temporary weakness, the increase disappearing when the temporary feebleness had passed off. In another of these 9 cases the phenomenon was normal and remained so during the diabetic coma in which the patient died. This agrees with Williamson's observations, who found that in 3 cases of diabetic coma the knee-jerk was present up to the last, while, on the other hand, Bouchard and Rosenstein found the knee-jerk absent in similar conditions. In another of the 9 cases one knee-jerk was exaggerated, while the other could not be elicited. Among the 13 cases in which it was absent 4 were cases of severe diabetes, and in 1 there was evidence of profound neuritis—viz., atrophy and trophic disturbances in the limbs. Nine of the cases in which absence was noted were cases of slight diabetes, but 2 of these were complicated with tabes, while in a third there was so much adiposity that it could not be positively ascertained that the loss was not on account of this. In another of the cases a slight knee-jerk could be found on the left side, but none at all on the right, so that the number of cases out of 131, in which the knee-jerk was absent associated with diabetes alone, was only 10, or a percentage of 7·6. Dr. Grube agrees with Rosenstein that the symptom has no prognostic significance. It will be seen that the results of this investigation are very different from those obtained by other observers. The percentage of cases in which the knee-jerk was absent was extremely low, and the number of cases investigated was certainly sufficiently large to furnish a fair test. We confess that it would be satisfactory to know more of the character of the cases. All that we are told about them is that they were slight or severe, and this, we presume, has reference to the amount of sugar excreted; but there are other points in reference to cases of so-called diabetes which are important with reference to such an investigation as is here dealt with. There is now recognised a large class of cases of what is correctly if guardedly called glycosuria, occurring more especially in gouty subjects, and signalised by the temporary presence of sugar in the urine. These cases differ very materially in character and course from the severe constitutional affection universally recognised as diabetes mellitus, characterised as it is by polyuria, glycosuria, great weakness, and the inevitable lapse into coma and death. It is in the direction of a separation of his cases into two such classes that we would look for further particulars from Dr. Grube. It may be that the absence of the knee-jerk in glycosuria may be found only in such cases as are likely to be associated with neuritis. The fact that in apparently two of Dr. Grube's cases the knee-jerk was absent on one side and present on the other is strongly suggestive of a local process and not a blood state as the cause of the absence; and, on the other hand, such particulars as we have referred to may give us some indication of the class of cases in which neuritic phenomena may be looked for.

SCURVY IN CHILDREN.

IN the February number of the *Practitioner* there is published an article on scurvy in children by Dr. George A. Sutherland. The first article on this disease which attracted attention in this country was by Dr. W. B. Cheadle, and appeared in THE LANCET of Nov. 16th, 1878, and this was followed by the pathological work of Dr. Barlow a few years later, from which it was clear that the cases described as "acute rickets" were really cases in which scurvy and rickets were combined. In considering the etiology of the disease Dr. Sutherland shows its intimate dependence upon unsuitable food, and ascribes its greater frequency in the last few years to the much more common use of proprietary infants' foods, largely starchy in composition, as substitutes for milk; and he clearly proves, from a study of published cases, that an overwhelming proportion of cases occur during the two first years of life. The signs and symptoms of scurvy in children are then described. There is at first a general condition of anæmia, the so-called "scorbutic cachexia," and, associated with it, debility and listlessness, gradually going on to complete apathy, alternating, it may be, with fretfulness and irritability. The gums are at first pale, then red and swollen, and, it may be, ulcerated; the limbs may lose their power and be very painful, this being a result of subperiosteal hæmorrhage; the eyes also may be affected, the

lids becoming œdematous and the balls pushed forward, the result also, as pointed out especially by Mr. Holmes Spicer, of similar hæmorrhage. In some cases blood is found in the urine. The skin may be harsh, dry, or œdematous, and subcutaneous hæmorrhages are frequent, while muscular pains from extravasation into the muscles are not uncommon. Epistaxis also occurs and there may be bleeding from the stomach, bowels, or lungs. The serous cavities may have blood in them, and sudden death from syncope constitutes a grave danger. The appearances found in children who die from the disorder are such as are indicated by the symptoms. Hæmorrhages under the periosteum of the long bones is one of the commonest conditions, and in the brain hæmatoma of the dura mater may be met with, or extensive cortical and subcortical hæmorrhages. Dr. Sutherland is inclined to think that intra-cranial hæmorrhage in children is more frequently a result of scurvy than has been supposed, and he thinks that too often it has been regarded as, in itself sufficient proof of syphilis, when a closer examination would have shown that it was more probably scorbutic. The treatment, of course, will be dietetic, and will be largely determined by the age of the child. Fresh milk, vegetables, and fruit juice are usually sufficient to get rid of the condition, and of course proper dietary will prevent its occurrence. The paper is an important one and sums up our knowledge of an interesting and probably not uncommon disease in children, whilst it directs attention to several points both in its symptomatology and morbid anatomy which have not hitherto been sufficiently noticed. It will be seen that Dr. Sutherland's views coincide with absolute exactness with those of Dr. Railton as expressed in his article on scurvy rickets published in THE LANCET of March 3rd. Dr. Railton also traced the occurrence of the disease to the common use of proprietary foods, and expressed surprise that so few children suffering from rickets show symptoms of scurvy.

DEATHS UNDER CHLOROFORM.

OF recent fatalities under anæsthetics the following are cases which are especially important from the lessons they suggest. In every instance an operation upon the upper air passage was about to be performed, in the first case a polypus nasi had to be taken away; in the second post-nasal adenoid growths were to be removed; and, in the third, a baby of eleven weeks was undergoing the surgical manipulation necessary for the cure of "hare-lip." In such cases it is usual to give chloroform, although a recent debate in the Society of Anæsthetists show that many English anæsthetists are in favour of some modification of the hard-and-fast rule of selecting chloroform in every case of operation upon the oral or oro-nasal cavities. In America, also, ether is largely employed for such cases. In England many prefer the A.C.E. and other mixtures. The advantages that chloroform offers are many and manifest; the patient remains under its influence longer after the lint, towel, or mask is removed; it can be given through a tube, which, introduced into the mouth or nostril, occupies little space and renders hurry in the performance of the operation unnecessary. Should the actual or Paquelin's cautery be required, no fear of explosion exists, while hæmorrhage is probably lessened by the use of the chloroform, owing to the reduction in blood pressure which accompanies its use. On the other hand there are risks which appear to be due to the very properties of this anæsthetic which commend its use in such cases. The profoundness of the narcosis, which is really the reason why a patient having inhaled for a time can be permitted to breathe air without any fresh anæsthetic, increases the risk of blood entering the lungs—a danger which led to the death of the infant in one of the cases under review—while the lessened hæmorrhage is obtained at the cost of an increased shock to the system, a shock which we are told caused the death of the child in the second case narrated below. In the first case, a married woman was given chloroform in the Coventry and Warwickshire Hospital with a view to the removal of a nasal polypus. She, on the commencement of chloroformisation became very violent, and was held down by four persons. At the inquest the husband of the patient complained that the operation was entered upon too hurriedly, but no evidence of this appeared, and as a matter of fact the patient appears to have died before any operation could be performed. The death was ascribed to heart failure. As has been pointed out by Snow and others, excitement and struggling during the inceptive stages of chloroformisation are of peculiar significance. It is often said that the patients die from the strain imposed upon their hearts by the powerful and almost spasmodic contractions of the thoracic muscles; but as the analysis of Snow's collected cases appears to demonstrate, most, if not all, the deaths are due to either too free an ingestion of chloroform-laden air occasioned by the forced respiratory movements during struggling, or to an insufficiently diluted vapour inspired under kindred conditions. Surgeon-Lieutenant-Colonel Lawrie has also called attention to the dangers of allowing a patient to continue to inhale chloroform during struggling. In the second case, a child aged seven years had had tonsillotomy performed, but as there was further obstruction (due to post-nasal adenoid growths) she was submitted to chloroform by the house physician at the Radcliffe Infirmary, Oxford, while the house surgeon rapidly operated. There was much bleeding, as usually occurs with these operations. Respiration was impaired, and the patient lost her colour. The trachea was opened and artificial respiration performed, but the child never recovered. There was no blood in the respiratory passages. The death was believed to be due to "shock on a delicate constitution." There have been several almost identical cases to this one, and the shock of the operation (due to the profuse, although momentary, loss of blood) doubtless does play a considerable part in the matter, especially when the child is further depressed by the chloroform and the mechanical interference with respiration which must take place during the performance of the operation. We have already referred to the third case. An infant aged eleven months, whilst under chloroform, had a hare-lip operated upon, and died from suffocation. The post-mortem appearances showed that during the operation the blood had trickled into the trachea and blocked the lungs. There is always a grave danger of this unless a very light anæsthesia is maintained and a sponge kept behind the lip. In no case should the "cough reflex" be abolished in such cases.

THE DIAGNOSIS OF TYPHUS FEVER.

AT a special monthly meeting of the City Council at Liverpool on Thursday, March 8th, their deputy tow clerk read a report from Dr. Hope, the medical officer of health for Liverpool City and Port, upon an outbreak of typhus fever which had recently occurred in the city. The story of the spread of the disease, as set out in this report, is exceedingly instructive. On Sept. 26th last the wife of a plumber named Banks died at 9, Vipond-street, the cause of death being stated to be pleurisy. On Oct. 18th a member of her family was removed to hospital suffering from typhus fever; and on Oct. 25th another person, named Devonport, living in the same house, was notified to be suffering from enteric fever. She refused to go to the hospital. On Nov. 3rd four persons belonging to the Banks and Devonport families, together with the woman Devonport, were found all to be suffering from typhus fever, and they were removed to the Netherfield-road Hospital. The Banks family subsequently went to reside with a family named

Coulson, living in 12 Court, Hygeia-street; and on Jan. 23rd Coulson, the father of the family, died. His death was certified to be from bronchitis, and the body was kept in the house for about a week before burial. After Coulson's death his four children were taken by relatives, two going to No. 49, Annerley-street, one to No. 37, Job-street, and one to No. 37, Herbert-street. One of the two who went to Annerley-street was found to be ill on Feb. 15th and having been removed to the hospital developed typhus fever. On Feb. 24th the aunt and cousin of this patient were removed from 49, Annerley-street suffering from typhus fever. Coulson's other child was taken to 37, Herbert-street, the house of the father's brother, George Coulson. He (the uncle) was sent into Mill-road Infirmary as he was suspected to be suffering from pneumonia. At the infirmary he was found to be suffering from typhus fever and was sent on to Netherfield-road Hospital on Feb. 20th. His house was visited on the same day, and three members of the family were found to be sick, and these were at once removed to Netherfield-road Hospital, together with three other children and a person who had been in attendance, the latter four being removed for isolation. Meanwhile, during the week ending Feb. 24th, two persons were sent by medical men to Mill-road Hospital from 12 Court, Hygeia-street, and on arrival were found to be suffering from typhus fever and were sent on to Netherfield-road Hospital. Another case from 15A, Hygeia-street, was also sent as non-infectious to Mill-road Hospital and subsequently transferred to the proper hospital at Netherfield-road. Dr. Hope also reported two apparently independent outbreaks, one contributing fourteen cases, in Tuebrook, and another, contributing the same number of cases, in Pritt-street. Typhus fever is, we should be grateful to remember, no longer a common disease, while it is also a notoriously difficult one to diagnose. Alderman Dr. Bligh at the meeting of the council made a spirited defence of medical men. The facility with which gentlemen dogmatise on the facility of diagnosis is generally in inverse ratio of their knowledge of the subject. It is doubtless the greatest pity that diagnosis cannot be made at once in fevers—an impossibility that is particularly marked in the case of typhus fever—and it is to be sincerely regretted that the cause of death of the original case was not perceived, but those who know will appreciate the great possibility that there was not present a single manifestation to guide the medical man.

THE INSTITUTE OF CERTIFICATED SANITARY INSPECTORS.

WE have received the first annual report and the bylaws of the Institute of Certificated Sanitary Inspectors. We learn from the report that "in 1892 circumstances occurred which appeared to a number of certificated inspectors to render it highly desirable that a society be formed, having for its main object the protection of the interests of holders of the certificate in sanitary science." We are not told what these circumstances were, but we note that at the third general meeting a resolution was adopted censuring the Sanitary Inspectors Association and the British Institute of Public Health for circulating statements reflecting on the value of the certificate granted by the Sanitary Institute to sanitary inspectors, the resolution further expressing the opinion that such statements were only made with the view of depreciating the value of the Sanitary Institute's certificate in order to advance the interests of the British Institute of Public Health. The report concludes with the expression of an opinion that there is room and still a necessity for the continued existence of the society. We note the expression "sanitary science" in the sentence we have quoted. The Public Health (London) Act does not make use of any such term, yet this is the only Act of Parliament which refers to the qualification of the sanitary inspector. The qualification in sanitary science is that which is required for the appointment of medical officers of health, and only then in the case of appointments to large communities. If the Institute of Certificated Sanitary Inspectors propose to claim that a very elementary knowledge of structural conditions and of the means of abating nuisances is sanitary science they demonstrate their own inability to understand what sanitary science really means. The sooner this foolish claim is abandoned the better it will be for the body of sanitary inspectors, for it is calculated to make them forget their own proper duties, which are prescribed by orders of the Local Government Board. We are glad to see every reasonable step taken that will tend to make the sanitary inspector more efficient, but we doubt whether these officers will derive any benefit from the existence of two instead of one association. This, however, is a matter which must be settled among themselves. If there is any necessity for the continued existence of the institute—and upon this we offer no opinion, for we do not know on what grounds the assertion is based—we think it might with advantage devote itself to securing the more complete education of these officials on the lines already laid down rather than in making unwise and impracticable claims upon a knowledge to which these officers cannot attain.

LONDON SNOW.

BEFORE the Public Health (London) Act became law in 1891 the duty of removing snow from the footways devolved on the occupiers or owners of houses, but in that year was imposed upon the sanitary authorities. Mr. Ritchie very strongly and very properly opposed this change. It involved after every snowstorm the employment of a vast number of sweepers, whose services it was already difficult to procure in sufficient numbers for the roadways. There was no difficulty in the householder making his own arrangements; he could do the work himself, employ his servants, or engage the services of the many boys who for a few pence would perform this duty. The snowstorm of January proved Mr. Ritchie to be in the right. The sanitary authorities addressed themselves to the clearing of the roads, but left the footways for the most part untouched. The condition of the footways last January will not be forgotten. The *Pall Mall Gazette* has just published an article based upon replies it has received from the vestries and district boards in response to an inquiry as to the cost of clearing the streets, from which it appears that January's storm cost London more than £20,000. It further gives some interesting details of the work and speaks well of the efforts of the northern and eastern authorities as compared with some of the western; but the difficulties of securing sufficient labour at such brief notice are insurmountable, and London will after experience of more snowstorms learn that Mr. Ritchie's warnings were well founded.

THE COUNTY COURT AND PHYSICIANS' FEES.

A SOMEWHAT novel and interesting case, Boxall *v.* Woolledge, was tried a few days ago in the Bloomsbury County Court. Dr. Boxall is a graduate of Cambridge and a Member of the Royal College of Physicians, practising, as is well known, as an obstetric physician and gynæcologist. He had been urged to attend a lady and paid her three or four visits, for which he charged five guineas—i.e., two guineas for the first and a guinea for each subsequent visit. The defendant refused to pay these fees, considering them too high, and bringing witnesses to testify that in Cambridge, where the defendant lives, the attendance of physicians can be had for less. This was, of course, no reason why Dr. Boxall should lower his fees and make charges unbecoming a London consultant. His Honour, Judge Bacon, put this very plainly, and said, as reported in

the *Morning Post*, "If a medical man was called in and no agreement made as to charges, then the doctor's ordinary fee, if it was not ridiculous, must be paid. He only took the status of the patient into consideration as a matter of charity. The question of status is purely one of charity. I never heard of a doctor who charged less than a guinea a visit. I am certain there is no less charge than a guinea. I find a verdict for the plaintiff for the amount claimed, with costs." The interest of this case is the consulting position of the plaintiff. Had he been a *Fellow* of his College he would have been debarred from sueing for his fees. Had he lowered his fees he would have acted unworthily of his own status and played the part of competitor with general practitioners. As it is he has vindicated the claim of consultants to enforce their own proper fees, and secured a judgment which will cause those members of the profession who support patients in paying inadequate fees to reconsider their duty.

ACROMEGALY AND THYROID EXTRACT.

AT the last meeting of the American Neurological Association Dr. Parsons showed a case of acromegaly. The prominent symptoms were headaches, and these had come on before any enlargement of the extremities was noticed. The enlargement of the hands was first noticed six years ago, and now there are in the hands and face, and probably also in the feet, the unmistakable signs of the condition alluded to. There is apparently no affection of the visual fields, although the patient has pain occasionally in the left eye. The chief interest of the case, however, lies in the fact that the patient has been treated with thyroid extract and that there has been a certain amount of improvement. No change in the appearance or dimensions of the affected parts can be claimed, but the headaches are much less and the subjective symptoms generally are not so severe. Of course, nothing in the form of a cure is claimed, and indeed it seems to be open to doubt whether such improvement as is reported is not altogether imaginary.

THE CORONERSHIP FOR NORTH-EAST LONDON AND MIDDLESEX.

WE are informed that two gentlemen, Dr. Gross and Dr. B. O'Connor, are candidates for the vacancy created by the death of Dr. Roderick Macdonald, who was coroner for North-east London and Middlesex. Mr. Charles Gross, M.D., M.S. Lond., F.R.C.S. Eng., holds the Diploma of Sanitary Science, Cambridge, and is also a barrister-at-law. He has served for fourteen years as superintendent of St. Saviour's Infirmary, East Dulwich. His ample qualifications should render him acceptable to the elective body as a candidate for the office. Mr. Bernard O'Connor, M.D., M.Ch.Q.U.I., M.R.C.P. Lond., Diplomate of Public Health under the Conjoint Board of England and barrister-at-law, is also a candidate. We often have had occasion to urge the necessity of appointing gentlemen to the office of coroner who hold medical qualifications. Here both applicants, in addition to being medical men, are barristers-at-law, which makes each of them a particularly suitable candidate.

STAB IN THE SPINAL CORD.

AN abstract of an interesting case of a stab in the spinal cord, recorded by Dr. Kiär, appears in a recent number of the *Neurologisches Centralblatt*. The patient, a sailor twenty-one years of age, received a stab in the spine, causing him to fall down. He was unable to raise himself, and complained of pain in his back and in the right shoulder and leg. The stab was at the level of the first dorsal vertebra on the right side and ran from above downwards and inwards, the inner angle of the wound, which was three centimetres long, lying one centimetre to the outside of the middle line. The right leg lay flaccid, rotated outwards, and, while it could not be moved voluntarily, it offered no resistance to passive movements. Muscular sense was completely retained. The grasp of the right hand was weak, but movements of the hand and arm could be freely carried out. There was no disturbance of sensibility in the right leg or arm, but over the second intercostal space on the right side there was a zone of incomplete anæsthesia between the middle line and the nipple line where light touches were not perceived and where the temperature sense was completely abolished. Above and below this line there was an area of hyperæsthesia both for touch and warmth. On the left side sensibility for touch was undisturbed, but there were thermo-anæsthesia and analgesia between the costal margin and the nipple. In the first two days the superficial reflexes on the right side were diminished or absent, the patellar reflex also being diminished. The right pupil was smaller than the left, but reacted well to light. Motor power was slowly restored and the anæsthesia on the right side quickly disappeared. Two months after the injury the wound had completely healed and there was no pain on pressure over the spot. The right leg had almost completely recovered, but the grasp of the right hand was still weak. The skin reflexes on the two sides were also again equal, but the impaired sensibility on the left side remained unaltered. Dr. Kiär concludes that there had been simply a stab in the cord, but not complete hemisection.

GRIEVANCES UNDER THE NOTIFICATION ACT.

THE letter of Dr. Leslie Phillips in THE LANCET of March 10th directs attention to the annoyance to which medical men are subject under the Notification Act at the hands of sanitary authorities or their medical officers. Doubtless, the instances are not very numerous. Medical officers of health are generally men of high character and familiar with the difficulties of practice and of medical diagnosis; but the instances are still too numerous in which the medical officer sits in judgment on the diagnosis of the notifying practitioner, or in which the sanitary authority prosecutes a practitioner for an unintentional omission to notify. Dr. Phillips quotes a clerk to one local authority as saying that the Act was passed in order that diseases which, in the opinion of medical men, "*were likely to develop into one*" of those mentioned in the Act might be notified at once. Dr. Phillips suggests that the Act should be so amended as to guard the practitioner from prosecution without the consent of the Local Government Board. Some protection will be necessary unless the authorities take warning by such failures as that in the Clerkenwell case, and leave the practitioner undisturbed in the responsibility which the law throws upon him.

DROWNING OF A SMALL-POX PATIENT AT BIRMINGHAM.

A VERY painful case has been investigated by the coroner of Birmingham, Mr. Oliver Pemberton, F.R.C.S. It was that of Alice Gobbett, a patient in the Birmingham Infectious Hospital, who was delirious from small-pox, and left, in a strait waistcoat, in charge of a nurse in an isolated ward known as the "Cottage." The nurse left the ward to look after patients in other wards, and on her return the patient had escaped. It was afterwards found that she had escaped through a heavy iron door which was unlocked and had fallen into a canal, in which she was drowned. The jury considered that adequate precautions had not been taken by the authorities of the hospital. It is obvious that the nurse of such a case should not have been expected to look after patients in other wards. The fact seems to be that the nursing staff was inadequate, and that, in spite of the instructions of the medical officer, the nurse of this unfortunate patient had been requested by other nurses to visit the other wards—thinking the patient safe in the

strait waistcoat. A very painful impression has been created in Birmingham by the accident, where a considerable outbreak of small-pox prevails. In connexion with this case, Mr. Pemberton, commenting on the unpleasant duty of viewing the body imposed by law upon the members of the jury, hoped that before long this obligation would be brought before Parliament and ultimately removed. He, however, told the jury that every precaution had been taken to minimise the risk. If any risk had existed he would have taken upon himself, without hesitation, to break the law. The body was viewed through glass. The coroner added that he did not hesitate to call attention to a fact which had been communicated to him by the responsible officials—viz., that the deaths from small-pox in vaccinated cases had amounted to 4½ per cent. only; while the deaths in unvaccinated cases reached a percentage of 30·3. A practical outcome of the investigation was that a promise was given by the hospital authorities that every precaution would be taken to prevent such a lamentable accident from occurring again.

THE ABUSE OF FAITH.

AN inquest was recently held at Sunderland touching the death of a woman who appears to have died from blood-poisoning in childbed. It transpired that the pastor of a certain religious sect had visited the deceased and professed to effect cures by the laying on of hands. It is stated that the deceased had expressed the opinion that to consult a medical man under the circumstances would have been to withdraw her reliance upon divine aid. An eminently sensible jury were, however, of opinion that the woman had caused her own death by refusing medical aid. While it is no doubt true that the physician in his contest with disease and death is at times worsted, no one who is acquainted with the present position of medicine will doubt that a grave responsibility rests upon those who in our day refuse the aid of the educated healer. This responsibility rests more especially upon those who, from their ascendancy over their neighbours as spiritual guides, foster, ignorantly or otherwise, the superstitious tendency which is latent in a very large number of people. Thus it has also recently been reported of a clergyman, who from his position is presumably a man of education, that he has explained the collapse of the steeple of his church, with what conviction to his congregation we know not, by asserting that this onslaught on the masonry of the building was an act of divine vengeance upon some who had suggested placing a memorial tablet in honour of Darwin within the sacred precincts. Any who are acquainted with the tone of this journal will not lightly accuse us of too materialistic a bias, yet we feel it our duty in vindication of common sense and the unanswerable teaching of experience to raise our voice against those, whoever they may be, who would by act or suggestion relegate any to a fatuous and fatal neglect of the employment of rational means in the treatment of disease worthy of the Dark Ages. Were we disposed to meet such false teachers on their own ground, which, knowing the probable fruitlessness of our efforts, we certainly are not, we could point out that even the prophet Isaiah, when he predicted the recovery of Hezekiah from a painful illness, advised him to use a poultice of figs as a necessary preliminary. It is a wise saying and devoid of irreverence that "God helps those who help themselves," and the laying on of hands, anointing, *et hoc genus omne*, can by no stretch of the sane imagination be regarded as self-help in the present day, and in the case of otherwise remediable diseases. We would go even further and suggest that such crass ignorance and negligence should come within the sphere of legal correction, which, we believe, it assuredly would do were it not that the hurtful consequences of such acts fall principally upon individuals and do not materially inconvenience society at large. The needless loss of a single life, however, may disorganise a whole family, and, in the continuity of social existence, even an obscure catastrophe may have far-reaching consequences, and should not, we think, be overlooked by the State.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

NEXT Monday, the 19th inst., is the statutory day at the Royal College of Physicians for the annual election of President. The vacancy created by the lamented death of Sir Andrew Clark has been so recently filled up that there will, of course, be no other name brought forward than that of the present President. Indeed, the manner in which Dr. Russell Reynolds is discharging the duties of office confirms the wisdom of the choice made a few months ago and augurs well for his continuance in office.

THE DIFFUSION OF SMALL-POX.

A SLIGHT increase of small-pox, which may not be without significance, occurred last week in London, the fresh attacks numbering 21. No death from the disease was registered. On Sunday last 69 cases were under treatment in the Metropolitan Asylum Hospitals, and 18 in the Highgate Small-pox Hospital. Increase of the disease occurred also in West Ham, where 31 cases and 3 deaths were recorded, 6 attacks developing also in Leyton. In Bristol there were 17 cases and 1 death; in Walsall 7 cases; in Birmingham there was a continued fall to 46 cases and 2 deaths; in Oldham, 10 cases and 1 death occurred; in Bradford 8 cases and 4 deaths; and attacks in smaller numbers in other places were recorded last week, some being towns newly invaded.

TRAUMATIC RUPTURE OF THE LUNG.

AN interesting case, in which rupture of the lung occurred through traumatism, was reported by Dr. Comte before the Société Médicale de Genève in January last.[1] The patient was a man aged thirty-seven; with the exception of an attack of pleurisy at the age of seventeen, from which he completely recovered, he had always enjoyed good health. One evening he received a violent blow from the beam of a machine, which struck him in the anterior thoracic region about the level of the right nipple. The blow, in addition to causing a considerable amount of shock, produced urgent dyspnœa. He was carried home and one hour afterwards was seized with profuse hæmoptysis, which lasted through the night and following day. He was seen by Dr. Comte on the fourth day. At that time, as on the previous days, no lesion of the integuments and no fracture of the ribs could be made out. The patient suffered from severe dyspnœa and continued to expectorate blood. The temperature was a little raised (38·5° C.). On auscultation tubular breathing was heard over the right supra-spinous fossa, and large, high-pitched râles were heard over both sides of the chest. The physical signs remained unaltered until the seventh day, when the patient died, apparently asphyxiated. At the necropsy none of the ribs were found to be fractured; the left lung, heart, and abdominal organs were healthy. There were dense, firm, pleural adhesions on the right side, especially round the apex of the upper lobe, where the pleura was very much thickened. At the junction of the upper with the lower two-thirds of the lung there was a deep and extensive wound or rent. At the seat of the injury the lung tissue was consolidated, and the upper part only was aerated. The tear was situated on the external border of the lung, where the pleural adhesions were strongest, and there were evidences of old tuberculous disease. The pathogeny of these cases is obscure. The majority of the writers on this subject would seem to be of opinion

[1] Journal des Praticiens, Feb. 21st, 1894.

that in such cases at the moment of the accident the patient must make a deep inspiration and then close the glottis; the full force of the blow would then be felt by the lung, which would rupture like a vessel filled with water. Dr. Comte does not support this theory, but agrees with that first proposed by Dr. Peyrot—namely, that the lung, firmly held by the adhesions, is not able to recoil from the blow, and thus rupture occurs at the part where the pulmonary tissue has been altered by previous disease.

THE MEDICAL SOCIETY OF LONDON.

THE 121st anniversary dinner of this society took place in the Whitehall Rooms of the Hôtel Métropole on Thursday, March 8th. The esteemed President of the society was unfortunately prevented by illness from presiding, but his place was ably filled by Mr. Durham, treasurer and past President. A large number of the Fellows of the society were present, and they were honoured by the presence of many distinguished guests. The Bijou Orchestra gave a selection of music during the dinner, and afterwards songs were sung, Dr. F. T. Roberts, with his invariable good nature, contributing in this way to the enjoyment of the company. Professor Bardeleben of Vienna was present as the guest of the society upon the introduction of Mr. Hutchinson.

"SALIVARY INFECTION."

DRS. P. CLAISSE and S. Dupré have made a series of experiments in order to try to ascertain the causes and results of the morbid processes known, for want of a better term, under the term "salivary infection."[1] Their results were as follow: 1. By means of aseptic ligatures of the salivary ducts they were able to cause retention of the saliva in the glands, and the fluid was shown to be perfectly aseptic. 2. They attempted to produce infection of the healthy glands by means of injections of cultures of pathogenic microbes through the ducts. Considerable resistance to their action by the glands was at once apparent, even when the ducts were wounded accidentally during the experiment. No result followed such injections, and therefore the observers were of opinion that infection could not be produced by the microbes in healthy glands. A second etiological factor is therefore necessary, which may be of a traumatic nature or some grave constitutional condition. The resistance to the action of the germs is offered mainly in the substance of the gland, although the ducts would also seem to assist in the process. 3. In further experiments the pathogenic cultures were injected into the canal above some artificial stricture, either a ligature or foreign body, so that the end furthest from the gland was impervious. Positive results were then obtained, thus showing an analogy with similar experiments made on the kidney and liver. Taking these results with clinical and pathological experience, Drs. Claisse and Dupré were of opinion, firstly, that salivary infection has always a buccal origin; and, secondly, that in its etiology it is subordinate to general and local conditions of the following nature: on the one side anatomical or functional disorder of the parenchyma of the gland; on the other, the entrance into the altered gland structure of pathogenic bacteria which, if the gland were healthy in every way, would have no ill effect.

THE ANTI-TOXIC FUNCTION OF THE LIVER.

PADUA through Professor Lussana, Brussels through Professor Héger, and Geneva through Professor Schiff, have of late years been associated with special investigations into the physiology and pathology of the liver, and now Rome has fallen into line with these sister schools by a series of interesting researches into the same viscus. It had been already established by the above-named biologists that the liver possesses a power of retaining certain poisonous alkaloids in high proportion and in their most active state—that is, when injected into the circulation and not merely absorbed by the mouth. Explanations have been hazarded as to this protective power of the liver against these toxic agents, and quite recently Dr. Schupfer, working under Professor Colasanti, Lecturer on Physiological and Clinical Chemistry in the University of Rome, has contributed elaborately to the solution of the question. His experiments were made on frogs—animals which tolerate removal of the liver well, and keep alive for days after the operation, nay, in some cases for weeks. The alkaloids were injected into frogs in their normal condition and into those which had been operated on, and every care was practised to watch the phenomena resulting. The alkaloids used were cocaine, atropine, apomorphine, and pilocarpine. Dr. Schupfer embodies his conclusions in a memoir read before the Accademia Medica di Roma, and they are to the following effect: the liver, by its sole intrinsic action due to the specific activity of its cellules, can diminish the toxic power of the alkaloids with which it is brought into contact. Such action is manifested not only in the case of poisons introduced through various channels into the organism, but also in the case of poisons elaborated internally within the organism itself in consequence of putrefactions or of products due to the activity of the tissues. From this he deduces a practical lesson—that, namely, of having recourse to internal disinfections and to a special alimentation, so as to obviate or to minimise "auto-toxication" in all those maladies in which the liver does not perform its functions normally.

DR. DONALD MACALISTER, Fellow and Tutor of St. John's College, has been appointed to the Linacre Lectureship of Physic, vacant by the resignation of Professor Bradbury. This ancient foundation dates from "the xvjth yere of the Reigne of Kyng Henry the viijth," when "Thomas Lynacre, doctor physyke and physycian to our Soueraigne Lord the Kyng" provided "the some of twelve poundes sterlinges for a certeyn lecture of physike to be founded and establisshed whin the vniuersitie of Cambridge."

SIR WILLIAM ROBERTS is the first of the members of the Opium Commission to return to London after completing the taking of evidence in India. Sir William Roberts formed part of the Commission which went to Burmah and visited Rangoon and Mandalay. The report will be prepared in England, and will probably be ready some time in the autumn.

MR. E. H. DOUTY, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S. Eng., of King's College, Cambridge, has been appointed University Lecturer in Midwifery, in succession to Mr. W. S. A. Griffith, M.D Cantab., F.R.C.P. Lond., F.R.C.S Eng, who has resigned his office.

THE Secretary of State for India has appointed Dr. Arthur W. Bishop, late assistant professor at the Heriot-Watt College, Edinburgh, to the post of Professor of Chemistry in his Highness the Maharajah of Travancore's College at Trivandrum.

PROFESSOR FERRIER, F.R.S., President of the Neurological Society of London, has been elected as delegate to represent this society at the forthcoming International Congress of Medicine at Rome.

THE members of the International Sanitary Congress were entertained at a banquet given by the Society of Public Medicine in Paris on the 9th inst.

[1] L'Union Médicale, Feb. 10th, 1894.

AT the recent meeting of the West Suffolk County Council Mr. George Owen Mead, L.R.C.P. and M.R.C.S. of Mentmore, Newmarket, was appointed coroner for the Newmarket and Haverhill divisions of Suffolk.

As this year Good Friday falls on a day when there should be a meeting of the Clinical Society, an extra meeting will be held on Friday, March 30th, at 8.30 P.M., when papers will be read.

ACCORDING to the latest accounts there is no cholera at St. Petersburg, and the disease has also disappeared from Constantinople and Teneriffe.

THE late Mr. Ingham Whitaker bequeathed a legacy of £5000 to the Hospital Sunday Fund.

THE LOCAL GOVERNMENT ACT, 1894.

TWO months ago we gave a brief outline of this measure, which had then passed the Committee stage in the House of Commons and was about to be introduced in the House of Lords. In the interval between that time and its final passage into law, the Bill underwent many changes, and it may be of advantage now to give some account of the new statute, representing, as it certainly does, a great reform in our local administration. The keystone of the edifice is the introduction of popular representative government into the rural parishes of England and Wales. The Act provides that there shall be a parish meeting for every rural parish, and, in addition, a parish council for every rural parish which has a population of 300 or upwards. These things are compulsory, but permission is given to parishes with a population of 100 or upwards to establish a parish council if they chose, and arrangements are offered for the grouping of small neighbouring parishes under a common parish council. As to the parish meeting, the Act lays down that it shall assemble at least once in every year, the proceedings not to begin earlier than six o'clock in the evening. Those eligible to attend are the parochial electors—that is to say, the persons registered in such portion either of the Local Government or of the Parliamentary list of voters, as relates to the parish. The parish council shall be elected from among the parochial electors or persons who have, during the whole of the twelve months preceding the election, resided in the parish or within three miles of it, and the number of councillors, not less than five nor more than fifteen, shall be such as may be fixed from time to time by the county council. Express provision is made in this part of the Act for women serving on the council. Before saying anything about the powers and duties of these two new bodies attention may be directed to a clause which entitles both of them to the free use of rooms in State-aided elementary schools in certain circumstances. In the first place, there must be no suitable public room available in the parish; and in the second the use by the parish meeting or parish council must not interfere with the work of the school. In another part of the Act it is distinctly laid down that no parish meeting, or meeting of a parish council, or of a district council, or of a board of guardians shall be held on premises licensed for the sale of intoxicating liquors, except in cases where no other suitable room is available for such meeting either free of charge or at a reasonable cost.

The first power given to the parish council is the appointment of overseers. When the Act comes into operation the churchwardens shall cease to be overseers, and an additional number of overseers may be appointed to replace them. In the same way the legal interest in all property vested, either in the overseers or in the churchwardens and overseers, other than property connected with the affairs of the church or held for an ecclesiastical charity, shall be vested in the parish council. Always withholding the affairs of the Church and ecclesiastical charities, the Act transfers to the new body the powers and duties of the vestry of the parish, and, generally speaking, those also of the churchwardens and the overseers. Further, it gives it the same power of making any complaint or representation as to unhealthy dwellings or obstructive buildings as is conferred on inhabitant householders by the Housing of the Working Classes Act, 1890. Considerable powers are given as to the acquisition of public offices, the use of wells, springs, or streams for water-supply, the removal of dangers to health, and the compulsory acquisition and hiring of land for allotments. A clause of considerable length lays down restrictions on the expenditure of the parish council. For instance, it may not, without the consent of a parish meeting, incur expenses which will involve a rate exceeding threepence in the pound for any local financial year, or which will involve a loan. In the latter event the approval of the county council is also requisite. Again, a parish council may not exceed in its annual expenses a sum equal to a rate of sixpence in the pound on the rateable value of the parish at the commencement of the year. The administration of parochial charities is a subject which need not be dealt with at any length here, although it occupied many days and weeks of the time of Parliament. It is enough to say that the final form of the clause dealing with it gives the parish council, in cases where the governing body does not include any elected members, power to appoint additional members not exceeding the number allowed by the Charity Commissioners. Elaborate arrangements are made for the keeping of parish documents. Registers of baptisms, marriages, and burials, and all other documents containing entries wholly or partly relating to the affairs of the Church or to ecclesiastical charities, remain with their present custodians, but the documents that do not come within these descriptions are put at the disposal of the parish council, who may allow them to remain with their present custodians or direct that they shall be deposited elsewhere. In every case reasonable access must be given both to the clerical authorities and the parish council. A supervisory power is entrusted to the county council to see that proper arrangements are made for the preservation of the documents. The parish meeting, besides being the mainspring of all action of the parish council, is itself a very active power. With it, and with it alone, rests the adoption or not of any of the following five sets of Acts—viz., the Lighting and Watching Act, 1833; the Baths and Washhouses Acts, 1846 to 1882; the Burial Acts, 1852 to 1885; the Public Improvements Act, 1860; and the Public Libraries Act, 1892. Of course, the parish meeting must observe the conditions of adoption laid down in the respective Acts—the condition, for instance, as to a particular majority. In parishes too small to have a separate parish council the parish meeting shall assemble not less than twice in each year, and shall be free to delegate work to committees, whose conduct will be subject to review by the meeting in the ordinary way. The powers and duties vested in the meeting include the appointment of the overseers, and, generally speaking, the powers and duties of the vestry, except so far as these relate to the affairs of the church or to ecclesiastical charities.

Coming now to the part of the Act dealing with district councils, the first thing to be noted is a great reform in the election and qualification of guardians. This reform is wider in its scope than any other in the Act, for it applies to the administrative county of London and to every county borough. It abolishes the *ex-officio* or nominated guardian. It also abolishes the plural vote. It lays down that a person shall not be qualified to be elected or to be a guardian for a poor-law union unless he is a parochial elector of some parish within the union, or has during the whole of the twelve months preceding the election resided in the union, or in the case of a guardian for a parish within a borough, is qualified to be elected a councillor for that borough. Another point in this reform is that in future boards of guardians shall be entitled to elect their own chairman and vice-chairman and to go outside their own number for them. As to district councils, the Act prescribes that there shall be one in every rural and urban sanitary district, without in the latter case disturbing the style or title of the corporation or council of a borough. To the chairman of every district council, "unless a woman or personally disqualified," to quote the Act, the distinction is given of being a justice of the peace for his county. The reform as to the election and qualification of guardians applies in almost every particular both to urban and rural district councillors, and the powers exercised by the new bodies will practically be those of the bodies they succeed.

Special powers are, however, conferred on them with regard to rights of way, rights of common, and roadside wastes. It will be the duty of every district council to protect all public rights of way, and to prevent, as far as possible, stoppage, obstruction, and encroachment; and it may, with the consent of the county council, aid persons in maintaining rights of common where it is considered that the extinction of such rights would be prejudicial to the inhabitants of the district. Certain powers of the justices are also transferred to the district council, such, for instance, as the abolition of fairs and the execution as the local authority of the Acts relating to petroleum and infant life protection. All that remains to be said is that the steps for putting the Act into operation will soon require to be taken, for the first election falls early in November, and, as may readily be understood, there is a vast amount of preparatory work to be got through.

ROME, AND HOW TO SEE IT.

(Continued from page 647.)

ROME, according to one of its best describers, who was also a medical man, would be among the healthiest of cities, "if only it were not Rome,"—if (in other words) it were not a vast repertory of ruins, of excavations above and below the mean level, or vasilicas, and churches and art collections, each and all of them so interesting as to detain the impressionable visitor long after his strength begins to fail him and prudence prescribes a return to his hotel. In addition to the golden rule already given not to arrive weary and with relaxed skin at the place he is going to see (a condition avoided by the simple precaution of driving thither instead of walking) let the visitor order his life prudently; let him dress warmly, with flannel underclothing; let him choose for residence the upper floors of hotel, or pension, or lodging-house, so as to enjoy the sun and escape the street odours, exhalations, and noises; let him sleep in a room with a free outlook, not drawing its light and ventilation from a narrow court, and, as far as possible from the *lieu d'aisance*, and let him fare as the Romans do—generously, but without excess, beginning the day with a light breakfast, and making each successive meal correspond in sustaining power to the needs of the system, which is generally more used up at dinner-time than at luncheon. He need be under no apprehension as to the drinking-water, Rome still maintaining it in the purity and wholesomeness for which it was famous under Republic and Empire.

From the Colosseum, where he would wind up his first forenoon's explorations, the visitor—still restricting himself to the "summa fastigia rerum"—or outstanding points of interest—may drive out towards the Appian Way, and *en route* take a walk through the stupendous Baths of Caracalla, in which, it may be mentioned, an *al fresco* banquet will be given to the "Congressisti." There he will form some notion of the luxury and also of the sanitary wisdom of Imperial Rome, these baths, fed with water that was brought to them literally in rivers, being available not only for the *beau monde*, but even for the humblest artisan, who could thereby keep his skin clean for the smallest of sums. Further on the visitor approaches the famous thoroughfare, a model of paving down even to the sixth century, and once lined on either side with the gravestones, which are again a proof of Rome's sanitary wisdom. Extra-mural sepulture was the practice, and not in the capital only, but in such minor cities as Ostia whose street of tombs outside the gate is one of the most pathetic features or that "Pompeii on the Tiber." A peep at the sepulchre of the Scipios and at the Columbaria will usefully precede a visit to the "stern round tower of other days," the Tomb of Cæcilia Metella, a magnificent and still finely preserved exemplar of the patrician mausoleum. A little further on, after a few hundred yards of the old Appian Way, with its battered gravestones of travertine and marble still standing out from among the Campagna grass and asphodel, the next turn should be to the left across country and into the Via Ostiense, if only for a visit to the Tre Fontane, the site of St. Paul's martyrdom, where the Trappist monks have converted a death swamp into a smiling oasis. To this THE LANCET (June 10th, 1893) made full reference in its leading columns, as a specimen of what the missionary sanitarians can accomplish. Leaving the Tre Fontane and its associations—the Ad Aquas Salvias of antiquity—the visitor retraces his steps along the Via Ostiense, till at the Pauline Gate he sees the famous pyramidal mausoleum of Caius Sestius, "the only surviving witness" of the apostle's last journey to his place of execution. "As the martyr and his executioners passed on," says Dean Howson, "their way was crowded with a motley multitude of goers and comers between the metropolis and its harbour; merchants hastening to superintend the unloading of their cargoes; sailors eager to squander the profits of their last voyage in the dissipations of the capital; officials of the Government charged with the administration of the provinces or the command of the legions on the Euphrates or the Rhine; Chaldean astrologers, Phrygian eunuchs, dancing girls from Syria with their painted turbans; mendicant priests from Egypt howling for Osiris, Greek adventurers eager to coin their national cunning into Roman gold—representatives of the avarice and ambition, the fraud and the lust, the superstition and intelligence of the imperial world. Through the dust and tumult of that busy throng, the small troop of soldiers threaded their way silently, under the bright sky of an Italian midsummer. They were marching, though they knew it not, in a procession more truly triumphal than any they had ever followed in the train of general or emperor along the Sacred Way." Associations such as these crowd into the mind as the visitor drives home, under the south-western slope of the Palatine, through the Circus Maximus, past the Theatre of Marcellus to the Pantheon, that "best-preserved monument of ancient Rome"; now, thanks to Dr. Baccelli, cleared of much of its squalid surroundings and standing out as what it was doubtless intended to be, a portion of the baths of Agrippa. From this monument we tear ourselves away, having completed another memorable forenoon, rich in mental resuscitations of Republican and Imperial Rome, and fraught with impressions that will never rest satisfied till, on some favourable opportunity, they are renewed and deepened.

A third forenoon should take the visitor on a drive through the chief piazzas, if only to make acquaintance with the obelisks. These monuments of Roman occupation in Egypt are of the deepest interest, not only in themselves, but for the memories they call up. Take, for instance, that one in the Piazza del Popolo. It stood before the Temple of the Sun at Heliopolis, and, according to sound archæologists, must have seen the children of Israel during their Egyptian servitude. Brought to Rome by Augustus, it was placed in the Circus Maximus, B.C. 23, where, having fallen from its pedestal in the fourth century, it remained buried until 1587, when it was removed to its present site by Pope Sixtus V. At the base of this legendary column begins and ends the Roman Carnival—that festivity which Goethe found such a sad sight when, under his eyes, the gay *insouciance* of the eighteenth century, in all its ripeness and rottenness, culminated in the most famous carnivalesque celebration ever witnessed. The year following that memorable one was signalised by the outburst of the French Revolution, after which all European capitals have worn a more serious look, and even the Roman Carnival has dwindled down into the ghost of its former self. That poor survival of childish junketing begins and ends, as we have seen, under the obelisk which witnessed what Carlyle calls the "stern imagination" of the chosen people as they wandered through the wilderness, and the most fervid evolutionist might well pause for a moment to contrast the two periods: that of the Israelitish captivity in Egypt and that of the close of the nineteenth century. Without losing faith in his belief, is he not tempted to ask himself whether the moral advance from the "stern Hebrew imagination" aforesaid to the almost imbecile frivolity of old and young which culminates in the Roman Carnival is more than a *quantité négligeable*, if, indeed, it is any advance at all? From such reflections the plash of the neighbouring fountains—a sound which, especially at night, is never absent in Rome—recalls us to other and more reassuring ones. This time it is Hawthorne who makes the remark. "Is it not instructive," he asks, "to note that, while the records that consul and emperor have reared for themselves in bronze and marble have all but disappeared, the memorials they have embodied in public fountains are extant to this day? What is more durable than stone or metal? What more unstable than the up-gush and downfall of water? Yet the latter monument has outlived the former! So is it ever with human actions. Those inspired by selfishness or individual glorification

pass away; while those associated with care for the people and public utility survive. After the fountains come their great feeders the aqueducts—edifices which, like their bridges and their highways, attest the imperial quality of the Roman people. Driving to the Via Appia Nuova the visitor will see the aqueducts, or what remains of them, to perfection—part of these great feeders, indeed, being utilised for the needs of the modern city. It was in no hydraulic ignorance that Consul first and Emperor afterwards brought these artificial rivers from the neighbouring hills to Rome on arches. Vast as was the expense incurred, they thought it well repaid if, by bringing the water for drinking and for ablution in channels raised far above any source of contamination in soil or thoroughfare, they thus secured to the Roman citizens, whether high or humble, the sovereign blessing of a pure, wholesome beverage and of a limpid, untainted bath. These were "imperial works and worthy kings," and a careful study of them at the Porta Maggiore, for example, may conclude the third forenoon's explorations and with those the general survey of the ruins of the ancient city. By this time the visitor has familiarised himself with all that is most typical of classic Rome, and though here and there some unique specimen of this or that structure, or edifice, or public building has yet to be examined, it is better to postpone all further sight-seeing within the Pagan period until another opportunity, when what has been already seen may be revisited, and the omitted objects of interest taken in. Allowing himself a week for his excursions through Rome, the newcomer will have to devote the remaining four days to the other "strata of interest" already indicated, and begin with the early Christian period, especially as brought to light in the Catacombs.

(To be continued.)

THE PUBLIC HEALTH SERVICE.

BY A LECTURER ON PUBLIC HEALTH.

THE subject of the leading article in THE LANCET of March 10th, "The London County Council and its Officers' Salaries," is one which is, perhaps, best treated under the heading of "The Public Health Service," seeing that the question at issue is one of vital importance to the whole service. The status and remuneration of medical officers of health have of necessity been much talked of lately among those immediately concerned; and it is a significant fact that at least one of the principal medical students' societies in the metropolis has made them the subject of discussion. Without attempting to deal comprehensively with the question, it may be useful if a few facts and observations are recorded by one who can claim to be well acquainted with the subject. The point just now raised is the very striking difference in the rate of remuneration of the chief engineer and the medical officer (both men of experience and high standing and appointed about the same time). The injustice to the latter officer is so obvious that it needs no comment; but it is desirable to observe that if the facts about the large provincial and manufacturing centres are carefully gone into it will be found that for several years medical officers have had to submit to this unjust treatment. In order to make this clear it is necessary to recall the fact that at the time when Mr. (now Sir) John Simon and his colleagues first made the influence of medical science felt in public health administration it was customary for official engineers of high standing to undertake private practice. For reasons into which it is not now necessary to enter, this custom became very generally abandoned about twenty years ago, those engineers who officered the large towns being awarded increases of salary in proportion to the emoluments they were required to give up. The appointments of medical officers for large towns also became general about this time, these officers being, in a few instances, from the very first appointed to devote their "whole time"; but, owing to the fact that these latter officers were entirely new in 1872, it was not till about ten years later that circumstances arose parallel to those to which attention is now prominently directed in London Some ten years ago careful inquiry would have revealed several cases of engineers and medical officers working side by side, both being able and tried officers, the former receiving, however, about double the rate of remuneration of the latter. This is not taking into account the case of borough engineers, who were also engineers to profitable undertakings, like that of gas-supply. In such cases the difference of remuneration referred to would apparently be much more striking. The present condition of things as regards the money value of medical officers' work seems to be, on the whole, about the same now as it was then, and that notwithstanding sanitary science having made rapid progress and the opportunities for medical preventive work having vastly increased. There is perhaps no sufficient reason for assuming that public authorities desire to behave unjustly to members of the medical profession who are ready to devote their "whole time" to their service. To what causes, then, are we to ascribe the existing anomaly in their treatment of the two classes of officers—engineers and medical men?

The following sentence from the leading article in THE LANCET of March 10th indicates plainly one of these causes: "There is, unfortunately, no doubt that sometimes the salaries of medical officers of health are adversely influenced by the fact that they are settled by persons who, as owners of insanitary property, have a direct interest in preventing sanitary progress." This is probably the more powerful cause; but there is another to which attention should also be drawn. The work of an engineer is always "in evidence," that of the medical officer of health hardly ever. This is the essential disadvantage under which members of our profession who are engaged in the sanitary service labour. The more successful their efforts at prevention are, the more effectually do they destroy the very evidence of work which seems to be essential for public appreciation. If an illustration of this point be desired, no better can be given than the important results that have followed upon the discoveries of Mr. William Henry Power and his colleagues in relation to milk epidemics taken in conjunction with the facilities afforded for their detection and prevention by the notification system, which medical officers of health may claim to have had a considerable share in bringing about.

There are many other considerations which may be taken into account in a further discussion of this important subject; but for the present it may suffice to indicate two of the main obstacles to the advancement of the special work of medical officers of health, leaving it to those who desire solely to forward public interests to consider the most effectual way of meeting them.

ITALY IN SPRING.

No doubt the minds of many of our readers are at present much occupied with the approaching International Medical Congress at Rome. The postponement of the Congress from September of last year to the present month is hardly a matter for regret, inasmuch as the malaria still lingers in the former month in some of the quarters of Rome, such as the Cœlian, Aventine and Esquiline Hills. Exaggerated as are the common ideas regarding the unhealthiness of Rome, the presence of malaria in the summer and early autumn cannot be gainsaid, and if the risk in many parts of the city is small the mere presence of the disease is an uncomfortable fact, and one likely to interfere with pleasure-seeking, even if no serious results should ensue. In March, however, we believe Rome may be regarded as perfectly safe, and the most timid traveller need have no apprehensions, especially as the water-supply, famed from the most ancient times, is abundant and of good quality. From some points of view the late autumn, October and November, is the best season of the year in Italy. The weather is then often fine, sunny and settled, without excessive heat; the colouring of mountain, valley, and lake is of wonderful beauty; and the festivals of the peasantry reveal the people in their most pleasing light. There is much, however, to be said for the spring. The freedom from malaria will be to many a decisive advantage. The spring tints, though less magical than those of the late autumn, are still most charming. The spring flora is in all its glory. The awakening of nature from her winter sleep, which is so marvellous even in northern latitudes, is

far more impressive in the south, where the exuberance of plant life makes the passage from winter to spring like a transformation scene in fairyland. The opening of the Congress is, perhaps, somewhat earlier than might have been desired, if climatic considerations were alone to be regarded. March, which has so evil a name at home, is a "ticklish" month even in Italy. It is often windy and variable, partaking now of the characteristics of the departing winter and again of those of the incipient spring. But as March merges into April there begins, perhaps, the most delightful season of the year, which lasts until the heat of summer becomes oppressive towards the end of May or the beginning of June. Many of the members of the Congress will, no doubt, prolong their stay after the proceedings have concluded, and they may hope for meteorological conditions highly favourable for sight-seeing and enjoyment. *Italia la Bella*, decking herself in her summer robes, is a sight that might stir poetic enthusiasm in the least romantic breast.

Rome, which was a favourite winter resort for *poitrinaires* in the times of our grandfathers, has lost its reputation in this particular and with justice. Its climate has neither the mildness nor the equability which the pulmonary patient usually craves. In the winter months the *tramontana* often sweeps down from the spurs of the Apennines with destructive bitterness. The streets—at least those of the mediæval city, now largely disappearing before the relentless march of modern "improvements"—do not well admit the sun's rays, and the alternations from sun to shade temperature are sudden and extreme. Nevertheless, as compared with northern lands, the climate has much charm, and can be safely recommended to many patients, excluding those who are the subjects of grave pulmonary disease. The same remarks apply with even greater force to Florence. The mountains are there nearer the city, and the *tramontana* blows with greater severity. Again, Rome, which is distant only about fourteen miles from the sea in a straight line, possesses a climate that is partly marine, whereas Florence, distant about fifty miles from the sea, has a distinctly Continental climate. Neither of these cities, unparalleled as are their claims from the æsthetic, literary, and antiquarian point of view, possesses the requisites for a really good winter or spring resort. They yield their maximum of attraction and advantage not to the serious invalid, but to the jaded and overworked individual to whom variety of interest is more important than ideal meteorological conditions. Further south, on the bay of Naples, at Sorrento, Castellamare, or Capri, spring comes early, and winter often departs with the month of February. On the other hand, the traveller in Lombardy must be prepared for severe cold prolonging itself well into the spring.

The seasoned traveller well knows that throughout the greater part of Europe spring is the most capricious season of the year, and that in many places anything from winter cold to summer heat may be encountered. He will make his plans accordingly, not forgetting that while it is well to be prepared for either extreme no harm ever comes from being overclothed should the weather prove unseasonably mild, while the gravest injury may result from being underclothed if unusual severity should prevail. These rules are as applicable to Italy as elsewhere, and no doubt will be borne in mind by those of our readers whom they at present concern. The traveller who goes south for the first time should learn that sunshine and warmth are not always synonymous, and that a brilliant sun may coexist with the most bitter and parching winds. This conjunction constitutes the great danger of such places as Nice, and should never be forgotten in Southern Europe in spring time. The transition from brilliant sunshine to chilly cathedrals and picture galleries is another of the familiar perils of Italian travel, easily robbed of all serious danger by sedulous attention to dress, but constituting a real peril to the more delicate in the absence of such precautions. Travellers need also to remember that Italy is approached by railways that pierce a great mountain chain, and run for considerable distances at high elevations; and also that travellers from Lombardy southwards must cross the Apennines. In these elevated tracts extreme cold may be encountered in the spring months, and for this adequate provision should be made. As a final hint, we may remind our readers that nearly all the derangements of health occurring during foreign travel are due to obvious and preventable causes—viz., fatigue, exposure, improper clothing, and errors in eating and drinking. The traveller who is careful not to exhaust himself, who avoids exposure to hot sunshine or cold winds, who clothes himself adequately but with a due regard to season and temperature, and who eats and drinks moderately, avoiding or partaking sparingly of unwonted articles of diet, will generally travel with impunity and in many cases with a great gain in point of health.

DISEASED ANIMALS AND MEAT IN NEW SOUTH WALES.

LAST year an Act was passed by the Legislative Assembly of New South Wales, entitled the "Diseased Animals and Meat Act," which conferred powers for dealing with animals suffering from dangerous maladies, and also for controlling the sale of meat for human consumption. Previous to that date the Board of Health had caused to be made inspections of animals sent for sale at Sydney and various country markets, and as a result a large number were found to be diseased and were promptly destroyed, the owners as a rule offering no objection. The mayor of Sydney also took similar action in the interests of the public health. In making the preliminary arrangements for administering the Act, the Board of Health determined to utilise as far as possible the services of officers then in the employment of the Government and of the different municipal councils; and to this end authorised, in accordance with the powers given them by the Act, Government medical officers, inspectors of stock, municipal inspectors, police inspectors of slaughter-houses, and other police officials to inspect and seize animals under this Act. Thus some 700 inspectors were appointed throughout the colony without any additional cost.

It appears, however, that some of the municipal councils which were invited to submit the name of one of their officers for appointment failed, and in several instances absolutely refused to do so. As the Act was a measure passed in the interests of the public, it was reasonably expected that municipal authorities would have cheerfully assisted the Board in safeguarding the health of their particular districts, and in the first report on the administration of the Act, a copy of which has just reached us, regret is expressed that all the municipal councils did not give their energetic coöperation in carrying out such a very useful piece of legislative work.

It appears from the above-mentioned report that during the year the following animals were seized and dealt with: cattle, 1930; pigs, 507; sheep, 23; calves, 2; and rabbits, 675. In addition to these, portions of unwholesome, unsound or diseased beef, mutton, veal, and pork carcases and putrid bacon have been seized and condemned. Prosecutions have also been instituted against persons for selling or consigning diseased animals, both in Sydney and the country districts, and in nearly every instance convictions have been obtained and fines inflicted. A large number of diseased cattle, apparently ownerless, and found straying on public lands, highways, reserves, &c., were also seized and dealt with under one of the sections of the Act, and are included in the above figures. It may be noted that the metropolis, Sydney, furnished more of the animals enumerated than all the country districts. The veterinary officers of the board had visited many parts of the colony from time to time, and had afforded valuable instruction to authorised persons as to their duties, and also given simple directions for the detection of diseased beasts; but in all seizures the authorised persons acting therein have been directed to secure professional aid to

support them, either from the Local Government medical officer or a competent and qualified veterinary surgeon.

It seems that much opposition to the Act was displayed at its initiation by various persons connected with the breeding and sale of stock, and it was found necessary, in addition to the seizure and destruction of diseased animals, to institute proceedings for the recovery of penalties, in order that their responsibility in this matter might be brought home to graziers. As the provisions of the Act became better known it was realised that the trade generally would benefit by its strict enforcement, and that ultimately the flocks and herds of the colony would be considerably improved. In no case had the Board instituted any prosecution, except in cases in which the disease was external and clearly observable by any person possessing an ordinary knowledge of stock.

The administration of the Act has raised many points of scientific interest and practical importance, to elucidate which it was necessary to undertake microscopical and experimental investigations, chiefly in the Board's laboratories. The diseases so investigated were tubercle, actinomycosis, abscesses, cancers, dermoid affections, and contagious pneumonia. The colony must derive great benefit from the operation of this Act, not only in protecting the public health, but also in limiting the prevalence of disease among the domestic animals and their products.

PATHOLOGICAL AND CONGENITAL ANOMALIES IN BRAINS OF CRIMINAL WOMEN.

BY SIGNOR WILLIAM FERRERO,
MILAN.

IT is a fundamental law of the Italian school of criminology that the moral derangement of the criminal is closely connected with physical abnormalities, among which those of the brain, as the organ of the mind, are no doubt the most important, and consequently Professor Lombroso and myself, who are engaged in studying criminal women, have not failed to devote particular attention to the subject. The facts ascertained so far have certainly not been sufficient to enable us to draw any decisive inference on the point, but it will not be uninteresting to know what we as well as other scientific men have found in such researches in the pathology of the brains of criminal women, and the more so as those facts might at least form the point of departure for further researches. The anomalies that have been met with in the brains of criminal women are of two kinds—viz., (α) pathological, produced by a disease contracted individually; and (β) congenital, a consequence of imperfect development, generally resulting from hereditary causes. Pathological anomalies were found by us in ten among thirty-eight criminal women's brains examined, and among all the anomalies encountered the following were the most noticeable: (1) dilatation of the lateral ventricles; (2) hæmorrhages in the frontal part of the hemispheres; (3) thickening of the cranial and spinal dura mater; (4) meningo-encephalitis; (5) apoplexy of the brain from hæmorrhage into the lateral ventricles; (6) syphilitic gummata in the form of two small oval masses adhering to the peduncle of the cerebrum and to the inner surface of the optic chiasm; (7) abscess in the brain, which had produced in the last months of life paralysis of the extremities; (8) cerebro-spinal meningitis, with the lateral ventricles containing an excess of turbid fluid and lymph; (9) tumour of soft consistence between the origins of the third and fourth pair of cranial nerves; and (10) abscess in the cerebellum. More than those thirty-eight brains have not been examined, the women that die in prison being few. It is impossible, of course, to make any safe deductions from so slight a number of observations, but we can hardly be said to overstep the limits of cautious reserve with which an investigator has to proceed in stating that a proportion of ten cerebral diseases ending almost always in death out of thirty-eight brains examined is a large and remarkable one. If future researches confirm the hypothesis that the probability of criminal women being affected by some cerebral disease is very great, a most important fact, as regards both pathology and criminology, will have been established.

With respect to congenital anomalies, the discoveries of Mingazzini, who carefully examined seventeen brains of crimina women, are very useful. In one of those brains (that of a "submicrocephalic" murderer) the vertical and anterior branch of the fissure of Sylvius was absent; in another the gyrus cunei was very superficially placed; in a third brain the middle frontal convolution joined almost at its beginning the superior, from the external and deep side of which a furrow ran transversely to the anterior part of the inferior frontal convolution. The brain of a matricide showed a prolongation of the inter-parietal sulcus crossing transversely the occipital lobe and a corresponding prolongation of the calloso-marginal sulcus. In the right hemisphere of another criminal woman's brain the inter-parietal sulcus appeared as a furrow in the shape of a cross, which divided the superior and inferior parietal lobules; the parietal convolution was at the left divided transversely into two secondary gyri by a sulcus bifurcated in its upper part and running parallel with the fissure of Rolando. In two cases the parallel fissure was connected with the parieto-occipital fissure; and in another the parallel fissure, after having thrown off a descending branch, crossed the hemisphere right through and reached its free margin. In one case the sulcus extremus was absent; in two other cases the calcarine fissure and the collateral fissure ran into each other; and, lastly, in one brain the sulcus extremus and an inferior branch of the bifurcated calcarine fissure were in connexion.

As Mingazzini examined also thirteen brains of male criminals it may be interesting to draw a parallel between these and the seventeen female cases just instanced by means of the following table:—

Parts of brain.	13 Men.	17 Women.
The vertical and anterior branch of the fissure of Sylvius absent	—	1
Gyrus cunei superficially placed	2	2
Anomalies of the frontal lobes	1	1
The parietal ascending convolution divided in two secondary gyri	—	1
The parallel fissure in connexion with the parieto occipital fissure	—	2
The parallel fissure reaching the free margin of the lobe	—	1
The sulcus extremus absent	—	—
The calcarine fissure and the collateral fissure in connexion	—	2
The sulcus extremus and an inferior branch of the bifurcated calcarine fissure in connexion	—	1

Besides these data there are a number of isolated cases of observations on brains of criminal women, which showed an accumulation of anomalies, both pathological and congenital, and struck very forcibly the investigators who studied them. Ferrier described, as follows, the brain of a criminal who used to practise tribadism: the right hemisphere was by forty grains lighter than the left; the fissure of Rolando was cut through by a deep furrow which sprang from the ascending frontal convolution, the latter being in a state of atrophy; and in the third convolution he found a depression with several gyri smaller and of firmer consistence than the usual structure of the convolution. Ferrier explains the latter anomaly as resulting from inflammation, but observes that the former irregularity at the fissure of Rolando seemed to him to be very remarkable and rare, as he encountered it but in one case out of 800 brains of normal men. Flesh found in the brain of a female thief, besides pachymeningitis, the ascending frontal convolution interrupted at the left, a central lobe of the cerebellum shaped like those of some species of mammifers, and two furrows which shooting out forwards crossed the horizontal convolutions right through the whole length of the hemispheres. Hotzen published in his "Psychiatric Archives" a number of interesting observations on the brain of Mary Köster, who, at the age of eighteen years, killed her mother in order to rob her of a small sum of money. Besides some traces of pachymeningitis, her brain showed a most curious atrophy of the cerebral cortex; the anterior central convolution was crossed by many small furrows, and the posterior was broken through by one groove by means of which the fissure of Rolando and the inter-parietal fissure became connected. The fissure of Rolando did not reach down to the fissure of Sylvius; both central convolutions, the anterior and posterior, were crossed by a deep broad gap, which united the inter-parietal fissure and the first frontal sulcus. This was undoubtedly a case of atrophy, resulting from congenital (and hereditary) degeneration of the brain; the numerous irregular furrows, indeed, do not indicate a superior degree of evolution, as do the convolutions, because they do not increase the cerebral substance, but very considerably lessen it. Congenital (and hereditary) degeneration was in this case also proved by some other

characteristics of the brain, of which the following two merit particular mention—viz., that all the convolutions were small, and more especially the frontal, which were evidently very little developed; and that the cerebellum was incompletely covered by the two hemispheres.

The cases referred to are undoubtedly exceptional and might be considered as monstrosities, but they warrant the inference that the anomalies, which have here come under such striking notice, may exist in the brains of all criminals, although in a smaller degree and less marked, and that further and keener researches may bring them to light. Medical men attached to prisons could better than any others supply very valuable information in connexion with their necropsies, and it would be a boon indeed if these few lines contributed to induce some of them to do so.

THE FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS AND THE REPORT OF THE ROYAL COMMISSION ON THE PROPOSED GRESHAM UNIVERSITY IN LONDON.

THE Council of the Royal College of Surgeons of England decided at its meeting on the 8th inst. to summon separate meetings of Fellows and Members of the College for Monday and Tuesday, the 19th and 20th inst., to consider the recently issued report of the Commissioners appointed to consider the Draft Charter for the proposed Gresham University in London. The meetings are summoned in pursuance of the following resolution adopted by the Council on Jan. 12th, 1893—viz.:

"That, in order to ascertain the views of the Fellows and Members of the College on the position which in their opinion this College should hold in the proposed Teaching University for London, separate meetings of Fellows and Members be convened at an early date after the report of the Gresham Royal Commission has been made public." The business of the meeting will be confined to:

1. The consideration of the following resolution adopted by the delegates of the Royal College of Physicians and this College, and referred to the meeting by the Council—viz.: "That the delegates of the two Royal Colleges do cordially approve of the general provisions in the Report of the Gresham University Commission, particularly in so far as they relate to the said Colleges, regarding them as being in accordance with the principles which the Colleges have hitherto affirmed and accepted, and as constituting the most comprehensive and academic scheme hitherto proposed."

2. "The consideration of any motions relating to the position of the College in the proposed University which may be introduced to the meeting by Fellows of the College." It is added in the circular issued to the Fellows: "It has appeared to the Council desirable that the Fellows should be conferred with on this question at as early a date as possible, and that the Regulation of the Council relating to meetings of Fellows, limiting the time within which motions to be introduced by Fellows must be sent in to twenty-one days before the meeting, should be suspended. Motions, therefore, which must be signed by the mover, or the mover and other Fellows, will be entered on the agenda of the meeting if received by the Secretary before 1 o'clock P.M. on Saturday, the 17th, and if declared by the President to be in order."

Whilst according to the Council of the College its due share of credit for abstaining from expressing an approval of the report of the Royal Commission before submitting it to the Fellows and Members of the College, we cannot but observe that in the present instance the Council has erred as much on the side of undue haste as it has hitherto been in the habit of erring upon the side of undue delay in consulting the Fellows and Members. The report of the Royal Commission is very long and complicated, and the interval between the announcement of the meetings and the dates fixed for the meetings is far too short to allow the Fellows and Members to "read, mark, learn, and inwardly digest" it, and formulate resolutions for discussion at the meetings. Hastiness of this kind tends to defeat the objects for which the meetings are ostensibly called, and must render any approval or disapproval of the report expressed at the meetings comparatively valueless. Moreover, it would have been advisable for the Council to have issued to the Fellows and Members some explanatory statement both defining the position which the College has hitherto taken up in reference to facilitating the acquisition by London medical students of University degrees, and to the effect which the scheme advocated in the report will have in advancing this end. The choice of such early dates as the 19th and 20th inst. for the meetings of Fellows and Members quite precluded the Council from appointing a committee to draw up a statement of the kind indicated, and we fear that the result of the meetings will prove the truth of the old adage "the more haste the less speed." What was the necessity for this haste is not at all apparent. Undoubtedly if the Fellows and Members of the College feel on the 19th and 20th inst. that sufficient time has not been given to them to master the report of the Commission and to arrive at a mature judgment on the intricate points involved in it they will do well to express this opinion and to ask the Council to adjourn the meetings for a few weeks in order to afford time for adequate deliberation. It is placing the Fellows and Members of the College in an entirely false position to ask them to deliver an opinion upon the merits of a complicated scheme after so short a notice.

THE INTERNATIONAL SANITARY CONFERENCE.

(FROM OUR SPECIAL CORRESPONDENT.)

A GREAT deal has been said concerning the attitude of the United States delegates. From the fact that the American Government has not yet abandoned the principle of quarantine, it has been concluded that the American delegates at the Conference have upheld old-fashioned ideas and advocated a reactionary policy in respect to sanitation. This led me to make inquiries, and the following is the substance of the answer I have received from Dr. Edward O. Shakespeare, one of the delegates of the United States Government to the Paris Sanitary Conference:—

In response to your note of the 2nd inst., enclosing an extract from the *Daily News*, London, I can only say that the seal of secrecy placed upon the proceedings of the International Sanitary Conference of Paris for this time prevents me from doing more at present than making a general and specific denial of the statement referred to. When the seal of secrecy shall have been removed from the proceedings of the Conference the *procès verbal* will, I think, convince any unbiased mind that the representatives of the United States have worked earnestly and loyally to forward the programme suggested by the Government of France for the consideration of the Conference. I am gratified to learn that the Editors of THE LANCET were inclined to doubt the truth of the statement referred to. The Editors of THE LANCET and other medical newspapers, I have reason to know, as a rule, evince far greater knowledge of the sentiments and work of American physicians and sanitarians, and a far greater feeling of fair dealing in judging of the acts of Americans in general, than is usually evinced by the British secular press.

From other sources I hear that the American delegates at the Conference merely made a statement. What America desires or intends to do with regard to emigration cannot be discussed by the present Conference. The delegates of the various Powers have no instructions on the subject. It may also be asked, Why should America ask Europe to protect her from cholera? England, France, and other countries did not ask Hamburg to protect them from this disease. There is a feeling that America is big enough to take care of

herself, particularly as she is already protected by the broad Atlantic, which of itself constitutes a long enough quarantine so far as cholera is concerned. Nor is there much fear expressed that restrictions imposed in American ports will check the flow of emigration, for such a result would be welcome to all except the shipping companies. There is no desire that America should for ever continue to take away the best men from Europe, for it is the most energetic and enterprising who emigrate. It is true that of late America has received some sorry specimens of humanity, notably the Polish Jew refugees from Russia; but even these men, dirty and filthy as they are in person, have intellects above the average, as our London East-end School Board teachers, who often teach their children, can testify. Taking these, and very many other arguments into consideration, I have not found that the American proposals have awakened much response. Perhaps when their case has been more fully argued and better considered it will meet with more favour.

The American delegates have what many will be tempted to think is an advantage over those from other countries. It is a purely scientific delegation and is totally unencumbered by diplomatists. The latter are not looked upon as animated by merely altruistic principles. The questions at issue are scientific questions, and a strong feeling of international solidarity unites scientific men. This is far from being the case among diplomatists, though Dr. Brouardel has very gracefully sought to minimise the difficulties. The Society of Public Medicine and Professional Hygiene, which was founded in 1877 and has been the chief means of promoting sanitary reform in France, gave a grand banquet the other day, at which the delegates at the Sanitary Conference were entertained. Dr. Brouardel seized this opportunity to propose as a toast, "The Union of Diplomacy and Science." In light, graceful, and humorous language he confessed that "for us technicians diplomacy had always seemed like an old duchess of the last century, very dignified and courteous, her head crowned with massive white hair, but with eyes still piercing and black. Undoubtedly she was still very intelligent; but oh! how painfully prudent." He then went on to describe hygiene as a young science animated with all the ardour and impatience of youth, and ill able to brook the prudent reserve of Dame Diplomacy. Also, hygiene had introduced in diplomatic circles unfamiliar terms, "pathogenic microbes," "dejecta," "vomit," and other words which had shocked and startled the old lady. Dr. Brouardel felt himself called upon to apologise for the indiscreet ardour of youth, but claimed, as an excuse, that the young science of hygiene had already saved more lives than any one conqueror has slain. He might, therefore, venture to beg Dame Diplomacy to pardon the indiscretion, the unconventional language, and the somewhat rude impatience of youthful hygiene, and consequently he drank to the union of diplomacy and sanitary science. After all, when medical men managed to agree among themselves, Governments did not fail to be impressed by this accord and were not so very long before they confirmed by legislative enactments the truths proclaimed by science.

The Conference, as already explained, was divided into two sections, one dealing with the Persian Gulf, whose labours were terminated some time ago, and the other with the Red Sea. The latter have now also completed their task. They have drawn up a new set of rules for the pilgrim ships. The accommodation on board these ships will have to be improved. The necessary sanitary precautions will be enforced in a more regular and uniform manner. Some restrictions on navigation are still maintained, to the regret and in spite of the opposition of the British representatives; but, nevertheless, the decisions are, on the whole, progressive and a decided improvement on what formerly prevailed. A tremendous onslaught was made against the insanitary condition of the quarantine station at the Island of Camaran. The British delegates were specially energetic in their denunciation; and in private conversation the Turkish delegates said that, had they been personally responsible, they would be furious at the language used by the representatives of the English Government. Dr. Thorne Thorne replied that they would have been still more furious had they themselves been kept in quarantine in such a place as the Island of Camaran. This grievance, it is to be hoped, will not long continue. His Majesty the Sultan has promised to supply from his own purse the means to improve the accommodation on this island. It is true that a promise is easier to make than to execute, and some time may yet elapse before the reforms are actually realised. The diplomatic pressure brought to bear during the Conference must not be relaxed when the delegates separate. The necessity of immediate action must still be impressed upon the Ottoman Government.

There is no doubt now that, so far as the medical work is concerned, the Conference will have terminated its labours by Easter, but there may be some diplomatic delays. The ways of diplomacy are not so smooth and cannot be travelled over with the same speed. Whatever delay may thus occur confidence is now felt that the results will mark a distinct step in advance, the danger of the importation of cholera will be lessened and the means employed will be of a more enlightened and scientific character than those which have as yet been applied. Throughout great cordiality has prevailed, and undoubtedly the Conference has not only been useful to sanitary science, but it has also forwarded the cause of international concord and peace.

Paris, March 12th.

CISTERN FILTERS AND UPWARD FILTRATION.

THE plan of automatically filtering the domestic supply of water in the cistern offers several important advantages not only on the ground of convenience but also of efficiency. Thus, in the portable or domestic filter, in which the coarser suspended matter is thrown directly upon the filtering medium, the speed of filtration is sooner or later reduced, and the pores of the material become choked and charged with vegetable growth, to which all the water subsequently passed through the filter is intimately exposed. Upward filtration through a filter placed in the cistern obviates this objection, since the filter, being placed on a level higher than the floor of the cistern, does not receive a great part of the confervæ and microscopic infusoria which compose the green slime which accumulates on the walls and floors of cisterns supplied with London water. In the portable filter, again, the filtered water is generally allowed to stand and stagnate before it is used, whereas in the cistern filter the water is only drawn off, as it is required, direct from the source of supply, so that its freshness is not impaired by long standing. There are, however, advantages of a scientific kind attached to the method of filtration in the cistern, provided that certain conditions are fulfilled. The inhibitory action of light upon micro-organisms and the purifying influence of infusoria have been established in recent researches, while it has also been ascertained that the slime or silt deposited on the surfaces of filter beds plays an important *rôle* in arresting bacteria. It would appear, therefore, that if water reservoirs were freely exposed to light, and the purifying power of the accumulating infusorial slime were utilised, but carefully eliminated from the filtrate, the very best conditions of filtration would be attained. Some approach to these conditions can obviously be made by the adoption of upward filtration in the cistern to which light has unstinted access. This is practically the aim of the London and General Water Purifying Company, Limited, whose system is mainly based on upward filtration applied in either the cistern or the household filter. As regards the filtering medium this company adhere to animal charcoal of special quality, but the choice of a medium is left to the consumer. Animal charcoal has fallen into disrepute because it is believed that the phosphate of lime and magnesia, of which it contains 80 per cent., fosters organic growth; but there is little doubt also that imperfectly burnt charcoal, and therefore charcoal containing organic nitrogenous compounds, has been partly the source of the objectionable results that have been observed. Nevertheless, as an aerator and purifier, animal charcoal when properly burnt so that it is free from nitrogenous matter holds its own against other purifying media. It certainly possesses powers which are foreign to many other materials; thus there may be mentioned its property of discolouring certain solutions—e.g., indigo—an action which is probably due to oxidation, and its property of destroying noxious gases, such as that of sulphuretted hydrogen, due, in all likelihood, to the same cause. Filters, however, which contain animal charcoal should be periodically cleansed and refilled. With these points strictly attended to, animal charcoal is probably equal, if not superior, to other material

in respect of purifying power. The system of inspecting, cleansing, and recharging at intervals, [which some filter-makers undertake for a small annual charge (and among them the company already referred to), is a security of which all who use filters would do well to take advantage. It is no more troublesome than admitting the gas company's official to read the meter, while the efficient working of the system of filtration is then guaranteed.

MEDICAL TRIAL.

Charge of Unlawfully Receiving Lunatics in an Unlicensed House.

AT the Central Criminal Court, on the 13th inst., before Mr. Justice Grantham, Mr. Cæsar Dudley Sherrard, M.R.C.S., of Eastbourne, was charged with unlawfully receiving certain lunatics in an unlicensed house without the consent or approval of the Lunacy Commissioners and contrary to the provisions of the Lunacy Act. The case had previously come before the Court and was resumed and concluded on the above-mentioned day. It will be remembered that the proceedings were instituted by the Commissioners in Lunacy in consequence of the suicide of a lady who boarded in the establishment of which the defendant was the proprietor. Several eminent medical witnesses were examined for the defence, who one and all concurred in their testimony to the skilful and considerate treatment experienced by the patients whilst under the care of the defendant.—Mr. Carson, in summing up the evidence for the defence, contended that the institution of this prosecution was putting the Act of Parliament to a use for which it was never intended.—Mr. Mathews having replied on the part of the prosecution, Mr. Justice Grantham summed up. His lordship remarked that there had been no greater improvement in the legislation of this country than that which had taken place in the treatment of persons of unsound mind. The object of the legislation in that regard was to ensure that no one should be put away as a lunatic without a proper examination having been gone into as to his condition of mind. The questions which the jury would have to decide were whether the patients were of unsound mind at the time the defendant received them into his house, the fact of his knowing it or not being immaterial, and whether he received them with the intention of treating them as such. Everyone would be glad to know that after the most searching inquiry nothing had been brought forward in evidence to cast blame on Mr. Sherrard in respect of the manner in which he had conducted his establishment; on the contrary, the investigation had served to show the admirable way in which it was managed. The jury, after an absence of twenty minutes, then gave in their verdict of "Not guilty"—a decision in which, said his lordship, he fully concurred.

We are glad that Mr. Sherrard was able to make out a case for himself to the satisfaction of the jury; but we think it certainly undesirable for anyone to strain needlessly the reasonable interpretation of the Lunacy Law in this direction, especially when that law in recent years has recognised the difficult position occupied by medical men in pursuance of their professional duties in relation to the certification of the insane. We agree with expression of opinion on the part of the jury, in which the judge also concurred, that the Lunacy Commissioners were quite right in bringing the case before the public.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bollington Urban Sanitary District.—The sanitary authority of this district have recently consulted Professor Boyd Dawkins with reference to obtaining a good water-supply, and there seems to be every prospect that such a supply will shortly be procured. Mr. James Allen brought forward during 1893 a proposal to include measles and phthisis in the Infectious Diseases (Notification) Act, but the proposal was rejected by one vote. The inclusion of phthisis as a notifiable disease appears to have originated from the following resolution, which was passed by the Public Health Committee of the Cheshire County Council: "That such of the urban and rural sanitary authorities of the county who have adopted the Infectious Diseases (Notification) Act be recommended to pass the necessary resolution extending the interpretation of infectious diseases in such Act so as to include phthisis, in order that the disease may in their respective districts be treated as 'infectious' and be notified to the medical officer of health." We should have been glad had Mr. Allen given us an outline of what it was proposed to do with the cases of phthisis in the event of the proposal having been carried out, and whether it was intended to isolate the cases of measles which would have been notified.

Newton Abbot Rural Sanitary District.—Diphtheria was very prevalent in this district during last year, and Mr. W. Harvey noticed that "the fatal cases were in every instance the earliest ones, and those following were never severe." He is inclined to regard this as an indication of a high degree of receptivity on the part of those persons first attacked. One case is mentioned where the evidence pointed strongly to diphtheria having been conveyed a distance of three miles from person to person by indirect infection, probably by the medium of clothes. Mr. Harvey remarks also with regard to scarlet fever that the first cases were, as a rule, more severe than the later ones. It would seem, in fact, both as regards the diphtheria and scarlet fever, that the virulence of the disease underwent a gradual modification of type in passing through successive individuals. In discussing typhoid fever Mr. Harvey strongly condemns the water-supply of Kingsteignton, where, he says, there has been for years past more typhoid fever than in the whole of the remaining parts of the district. It appears that the sanitary authority are fully alive to the necessities of the case, and are indeed anxious to provide a proper water-supply; but ultimately a poll of the parish was demanded, and the proposal to provide a water-supply was defeated by a large majority. This is especially to be regretted since there seems to be a satisfactory supply to be obtained at a reasonable cost. Mr. Harvey will, we feel sure, forgive us if we take exception to his report in one particular. It is most difficult to read owing to the absence of contrast between the colour of the text (faint red) and the background, and the print itself is often very indistinct.

Scarborough Urban Sanitary District.—Small-pox broke out in a common lodging-house in this district in 1893. It was, as is so frequently the case, introduced by tramps; but here the tramps were apparently convalescent from the disease rather than just developing it, as appears to have been usually the case. Dr. Robert Cuff dealt energetically with the invasion, and by promptly hiring the lodging-house and procuring attendants prevented the spread of the disease, the total cost to the sanitary authority being £20. Arrangements have now been made by which any further cases occurring in the rural district may be isolated in the hospital belonging to the Scarborough urban sanitary authority. With the exception of one village, the water-supply of the district is pronounced by the medical officer of health to be good; but it would have added to the interest of Dr. Cuff's report had he given a short description of what are the provisions of the several villages in his district.

West Hartlepool Urban Sanitary District.—In referring to the number of deaths of children under five years of age Dr. S. Gourley expresses the opinion "that the insurance of infants should be prohibited in all cases except in the regular friendly societies which are used by the industrious and provident classes." A man "looking for work" was the means of introducing small-pox into this district, and before he could be isolated six other persons had contracted the disease. Several cases of typhoid fever were noticed to follow closely upon attacks of influenza, and thirteen are said to have been caused by impure well water. The wells were at once filled up and a pure supply obtained from the main of the water company. Dr. Gourley gives an instance of the difficulties which often beset well closure, even though the well may be situated amid most undesirable and obviously dangerous surroundings. In the case in question the county analyst certified that the water was impure, but another analyst's examination resulted in an opposite verdict, which was confirmed by Somerset House. It is not recorded in the report whether all these samples were taken at the same or different times, and this is obviously a point of very considerable importance. Under any circumstances there is need for amendment in the provisions of the Public Health

Act, 1875, on this point, and it ought not to be necessary, in order to condemn a well, that actual pollution should be proved.

Quarterly Return of the Medical Officer of Health for Manchester.—The return for the last quarter of 1893 has just been issued, and, without disparagement to his successor, Dr. Niven, it is unfortunately the last quarter that Dr. Tatham will sign. So full is it of concisely marshalled facts that a complete abstract is impossible, and attention can only be drawn to a few salient points. There has been some increase in the notified cases of infectious disease, which numbered 1058, against 948 in the third quarter and 916, the corrected average, for the fourth quarter of the previous three years. Four cases of small-pox were reported, none of them fatal. There were respectively 15, 215, and 385 in the third, second, and first quarters of 1893. The occurrence, however, of four fresh cases in the week ending March 3rd shows that it still lingers and that without constant vigilance it may again become a serious scourge. It is not stated if these fresh cases were imported or otherwise. The cases notified last quarter were equal to an annual rate of 0·03 per 1000 of the city population. Scarlet fever had 656 cases put against it, equal to an annual rate of 5·09 per 1000 living, against 4·26 in the third quarter and 3·95, the average for the fourth quarter for the preceding three years. Diphtheria also was more prevalent than usual, 138 cases being reported, equal to a rate of 1 20 per 1000, compared with 1·03, the average rate in the corresponding quarters of the three preceding years. Enteric fever also showed an increase over the corresponding quarter of 1892, the numbers being respectively 217 and 192. For the last quarter, therefore, the notified cases equalled an annual rate of 1 68 per 1000 against a rate of 1 44 for the last quarter of 1892, and one of 1·80 for the fourth quarters of the previous three years. It is worth noting that as regards infectious sickness the old Manchester township compares favourably with either the north or south townships. It is not so, however, as to the general death rate. At the beginning of the quarter under notice 296 Manchester patients were in one or other of the hospitals for infectious disease, and the number admitted in the course of the thirteen weeks was 541. Of these forty were found to be suffering from other acute diseases. Deaths: In the course of the fourth quarter of 1893 3061 deaths were reported, equal to a corrected mean annual rate of 23·7 per 1000. In the corresponding quarter of the previous three years the rate was 26 3, nearly 10 per cent. higher. In the Manchester township it was 29·0, while in the north township it was 19 0 only, and in the south township 23 1 per 1000. In the Manchester township the infant mortality was still very high—197 per 1000, against 180 for the city. In this locality also the deaths from phthisis were 3 29, against 2·11 per 1000 in the city generally. The citizens themselves seem somewhat apathetic as to sanitary matters, for only eighty-one direct complaints on matters concerning the public health were made by them to the medical officer of health. The police, by the courtesy of the Chief Constable, render valuable information, and may be looked on as additional sanitary inspectors. Much might be said about the preventive work carried on in Manchester, but it must be left for a future opportunity.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6356 births and 3983 deaths were registered during the week ending March 10th. The annual rate of mortality in these towns, which had increased from 18·7 to 20·5 per 1000 in the preceding three weeks, declined again last week to 19·9. In London the rate was 20·4 per 1000, while it averaged 19·5 in the thirty-two provincial towns. The lowest rates in these towns were 11·1 in Huddersfield, 14 3 in Norwich, 14·5 in Gateshead, and 14·6 in Portsmouth; the highest rates were 22 4 in Cardiff, 22·5 in Plymouth, 23·2 in Blackburn, 23·9 in Wolverhampton, and 25·1 in Liverpool. The 3983 deaths included 471 which were referred to the principal zymotic diseases, against 475 and 478 in the preceding two weeks; of these, 145 resulted from whooping-cough, 111 from measles, 82 from diphtheria, 52 from scarlet fever, 39 from "fever," 30 from diarrhœa, and 12 from small-pox. No fatal case of any of these diseases occurred last week in either Brighton or Derby; in the other towns they caused the lowest death-rates in Portsmouth, Nottingham, and Halifax, and the highest rates in Liverpool, Wolverhampton, Cardiff, and Birkenhead. The greatest mortality from measles occurred in Norwich, Swansea, and Birkenhead; from scarlet fever in Gateshead; from whooping-cough in Croydon, Bristol, Swansea, Cardiff, Newcastle-upon-Tyne, and Plymouth; and from "fever" in Burnley. The 82 deaths from diphtheria included 53 in London, 5 in Manchester, 4 in Liverpool, 4 in Cardiff, and 3 in Wolverhampton. Four fatal cases of small-pox were registered in Bradford, 3 in West Ham, 2 in Birmingham, and one each in Bristol, Oldham, and Leeds; but not one in London or in any other of the thirty-three large towns. There were 87 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 10th inst.; 24 new cases were admitted during the week, against 18 and 17 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital, which had been 2270, 2181, and 2188 at the end of the preceding three weeks, was 2153 on Saturday last; 212 new cases were admitted during the week, against 180 and 239 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 340 to 413 in the preceding three weeks, further rose to 434 last week, but were 85 below the corrected average. The causes of 74, or 1·9 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Cardiff, Nottingham, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·6 and 19·6 per 1000 in the preceding two weeks, rose again to 21·1 during the week ending March 10th and was 1·2 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15 9 in Leith and 18·3 in Edinburgh to 24·2 in Greenock and 27·4 in Perth. The 601 deaths in these towns included 41 which were referred to whooping-cough, 9 to diphtheria, 9 to diarrhœa, 8 to scarlet fever, 7 to "fever," 4 to measles, and not one to small-pox; in all, 78 deaths resulted from these principal zymotic diseases, against 73 and 70 in the preceding two weeks. These 78 deaths were equal to an annual rate of 2·7 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 45 and 34 in the preceding two weeks, rose again to 41 last week, of which 21 occurred in Glasgow, 6 in Dundee, 4 in Edinburgh, and 4 in Aberdeen. The deaths referred to diphtheria, which had been 12 and 11 in the preceding two weeks, further declined to 9 last week and included 6 in Glasgow. The 8 fatal cases of scarlet fever showed a decline of 3 from the number in the preceding week and included 5 in Glasgow. The deaths referred to different forms of "fever," which had been 4 and 5 in the preceding two weeks, further rose to 7 last week, of which 5 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 127 and 118 in the preceding two weeks, further declined to 113 last week and were 29 below the number in the corresponding period of last year. The causes of 30, or 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·2 and 30·1 per 1000 in the preceding two weeks, further rose to 30·9 during the week ending March 10th. During the past ten weeks of the current quarter the death-rate in the city has averaged 32·3 per 1000, the rate during the same period being 21·5 in London and 18·7 in Edinburgh. The 204 deaths in Dublin registered during the week under notice showed an increase of 2 upon the number in the previous week and included 13 which resulted from the principal zymotic diseases, against 14 in each of the preceding two weeks; of these, 6 were referred to whooping-cough, 3 to "fever," 2 to diarrhœa, 1 to measles, 1 to scarlet fever, and not one to diphtheria or small-pox. These 13 deaths were equal to an annual

rate of 1·9 per 1000, the zymotic death-rate during the same period being 2·6 in London and 1·3 in Edinburgh. The fatal cases of whooping-cough, which had been 5 and 7 in the preceding two weeks, were 6 last week. The deaths referred to different forms of "fever," which had been 5 and 4 in the preceding two weeks, further declined to 3 last week. The 204 deaths registered in Dublin last week included 28 of infants under one year of age and 52 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons corresponded with the number in the preceeding week. Five inquest cases and 4 deaths from violence were registered; and 62, or more than a third, of the deaths occurred in public institutions. The causes of 13, or more than 6 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1894.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during February in each of the forty-three sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 9·1 per 1000 of the population, estimated at 4,349,166 persons in the middle of this year. In the preceding three months the rates had been 20·5, 14·0, and 10·3 per 1000. Among the various sanitary districts the rates last month were considerably below the average in Kensington, St. George Hanover-square, Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Fields, St. Luke, and Woolwich; while they showed the largest excess in Holborn, Bethnal Green, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and Greenwich. The prevalence of small-pox in London showed a slight increase during February, an average of 16 cases weekly being notified, against 32, 20, and 12 in the preceding three months; of the 64 cases notified during last month, 14 belonged to Fulham, 8 to Hammersmith, 7 to Lee, 5 to Plumstead, and 5 to Poplar sanitary districts. The Metropolitan Asylum Hospitals contained 68 small-pox patients at the end of February, against 128, 82, and 70 at the end of the preceding three months; the weekly admissions averaged 13, against 20 and 13 in the preceding two months. The prevalence of scarlet fever in London showed a further marked decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, Limehouse, Mile End Old Town, St. George Southwark, Rotherhithe, Lambeth, Greenwich, and Plumstead sanitary districts. The Metropolitan Asylum Hospitals contained 2139 scarlet fever patients at the end of February, against 2755, 2873, and 2404 at the end of the preceding three months; the weekly admissions averaged 207, against 275 and 244 in the preceding two months. Diphtheria also showed decreasing prevalence during the month under notice; among the various sanitary districts this disease showed the highest proportional prevalence in Holborn, Bethnal Green, St. George-in-the-East, Mile End Old Town, Poplar, Newington, and Greenwich. There were 303 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of February, against 308, 283, and 320 at the end of the preceding three months; the weekly admissions averaged 65, against 55 and 64 in the preceding two months. The prevalence of enteric fever showed a slight increase during last month; among the various sanitary districts this disease was proportionally most prevalent in Chelsea, Hackney, Poplar, and Greenwich. Erysipelas showed the highest proportional prevalence in Holborn, Clerkenwell, Bethnal Green, Limehouse, and Poplar sanitary districts. Four cases of puerperal fever were notified during February in Hackney and 4 in Greenwich sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various sanitary districts, the deaths occurring in the institutions of London having been distributed among the various sanitary districts in which the patients had previously resided. The distribution of these deaths, especially of those resulting from zymotic diseases, affords the most trustworthy data upon which to calculate reliable rates of mortality. During the four weeks ending Saturday, March 3rd, the deaths of 6373 persons belonging to London were registered, equal to an annual rate of 19·1 per 1000, against 27·0 and 23·0 in the preceding two months. The lowest death-rates during February in the various sanitary districts were 9·2 in Stoke Newington, 11·8 in Hampstead, 13·0 in Lee, 13·4 in Wandsworth, 14·2 in Chelsea, and 15·0 in Lewisham (excluding Penge); the highest rates were 24·5 in Shoreditch, 25·2 in Whitechapel, 25·8 in Mile End Old Town, 26·5 in Limehouse, 32·6 in Strand, and 33·6 in St. George-in-the-East. During the four weeks of February 841 deaths were referred to the principal zymotic diseases in London; of these, 260 resulted from whooping-cough, 210 from diphtheria, 188 from measles, 85 from scarlet fever, 63 from diarrhœa, 32 from different forms of "fever" (including one from typhus fever, 30 from enteric fever, and 1 from an ill-defined form of continued fever), and 3 from small-pox. These 841 deaths were equal to an annual rate of 2·5 per 1000, against 3·0, 3·1, and 2·9 in the preceding three months. Among the various sanitary districts the lowest zymotic death-rates were recorded in Chelsea, St. George Hanover-square, Stoke Newington, Holborn, St. Olave Southwark, Rotherhithe, and Woolwich; and the highest rates in Strand, Clerkenwell, Shoreditch, Bethnal Green, Limehouse, St. George-in-the-East, Mile End Old Town, and Greenwich. Three fatal cases of small-pox were registered in London during the month under notice, being 11 below the corrected average number in the corresponding periods of the preceding ten years; of these three deaths, 2 belonged to Lee and 1 to Woolwich sanitary districts. The 188 deaths referred to measles were 51 above the corrected average number; among the various sanitary districts this disease showed the highest proportional fatality in Hammersmith, Hackney, Strand, Whitechapel, St. George-in-the-East, Mile End Old Town, and St. Saviour Southwark. The 85 fatal cases of scarlet fever slightly exceeded the corrected average number; this disease was proportionally most fatal in City of London and Limehouse sanitary districts. The 210 deaths referred to diphtheria were just double the corrected average; among the various sanitary districts this disease showed the highest proportional fatality in Paddington, Fulham, Clerkenwell, Shoreditch, Bethnal Green, Limehouse, Mile End Old Town, and Greenwich. The 260 fatal cases of whooping-cough were 46 below the corrected average; this disease was proportionally most fatal in St. Giles, Strand, Shoreditch, Whitechapel, Newington, Greenwich, and Plumstead sanitary districts. The 32 deaths referred to different forms of "fever" were 10 below the corrected average; there was no marked excess of "fever" mortality in any of the sanitary districts. The 63 fatal cases of diarrhœa slightly exceeded the average. In conclusion, it may be stated that the mortality in London during February from these principal zymotic diseases exceeded the average by 15 per cent.

Infant mortality in London during the month under notice, measured by the proportion of deaths under one year of age to registered births, was equal to 142 per 1000, and slightly exceeded the average; the lowest rates were recorded in Hammersmith, Chelsea, Stoke Newington, Hackney, St. Olave Southwark, Lee, and Plumstead; and the highest rates in Kensington, Westminster, St. Martin-in-the-Fields, Strand, Shoreditch, and Woolwich.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

LEAVE of absence has been granted to Surgeon-Captain D. Bruce, A.M.S., Netley, from 13th to 31st inst. Surgeon-Captain L. T. M. Nash, A.M.S., will proceed from Netley to Aldershot for duty, on the arrival of Surgeon-Captain Bent, A.M.S. Surgeon-Major-General Inkson has embarked for Malta, where he succeeds Surgeon-Major-General Paterson as Principal Medical Officer, and Surgeon-Colonel Hamilton has embarked for the Cape. The following officers have left for India in the *Malabar:* Surgeon-Lieutenant-Colonel Anderson, Surgeon-Major Woodhouse, Surgeon-Lieutenants Read, Faichnie, and Withers. Surgeon-Captain Newland has been posted to York on return from foreign service. Surgeon-Captain Adamson has arrived in Egypt. Surgeon-Lieutenant St. J. Killery has been transferred to the Curragh.

ARMY MEDICAL STAFF.

The following Surgeon-Captains of the Army Medical Staff having completed twelve years of service on Feb. 4th, 1894, have been promoted to Surgeon-Majors. Their names appear

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—FEBRUARY, 1894.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1894.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,349,166**	**64**	**1420**	**823**	**2**	**219**	**5**	**24**	**486**	**—**	**3015**	**9·1**	**3**	**188**	**85**	**210**	**260**	**1**	**30**	**1**	**63**	**841**	**2·5**	**6373**	**19·1**	**142**
West Districts.																										
Paddington	121,583	2	25	29	—	6	—	—	15	—	68	7·3	—	1	1	8	6	—	1	—	1	18	1·9	154	16·5	178
Kensington	167,350	2	30	17	—	2	—	2	11	—	73	5·7	—	9	2	5	8	—	—	—	—	24	1·9	240	18·7	220
Hammersmith	105,566	8	29	11	—	2	1	—	14	—	65	8·0	—	10	2	2	6	—	1	—	1	22	2·7	134	16·8	85
Fulham	110,993	14	25	27	—	3	—	2	9	—	80	9·4	—	1	1	10	6	—	—	—	1	19	2·2	143	16·8	137
Chelsea	99,052	1	22	8	—	11	—	1	7	—	50	6·6	—	1	1	4	—	—	2	—	—	8	1·1	108	14·2	88
St. George Hanover-square	75,033	—	20	5	—	2	—	—	5	—	32	5·6	—	1	—	—	5	—	—	—	1	7	1·2	90	15·6	155
Westminster	54,414	—	10	4	—	3	—	—	—	—	17	4·1	—	6	2	—	1	—	—	—	—	9	2·2	93	22·3	185
St. James Westminster	23,571	—	5	6	—	—	—	—	1	—	12	6·6	—	2	1	2	1	—	—	—	—	6	3·3	39	21·6	132
North Districts.																										
Marylebone	138,554	1	54	32	—	10	—	—	23	—	120	11·3	—	8	3	6	2	—	3	—	2	24	2·3	238	22·4	170
Hampstead	75,443	—	9	2	—	5	—	1	6	—	23	4·0	—	—	1	—	6	—	—	1	1	9	1·6	68	11·8	105
St. Pancras	238,739	2	78	43	—	13	—	1	35	—	172	9·6	—	2	3	13	9	—	2	—	4	33	1·8	364	20·3	154
Islington	331,900	—	96	69	—	13	1	1	39	—	219	8·6	—	22	5	17	20	—	1	—	—	65	2·6	455	17·9	106
Stoke Newington	34,172	1	6	3	—	—	—	—	2	—	12	4·6	—	—	—	—	1	—	—	—	—	1	0·4	24	9·2	77
Hackney	211,493	1	85	51	—	20	1	4	20	—	182	11·2	—	16	4	8	6	—	3	—	5	42	2·6	155	15·7	96
Central Districts.																										
St. Giles	38,141	—	12	9	—	1	—	—	4	—	26	8·9	—	1	1	—	6	—	1	—	—	9	3·1	71	24·3	182
St. Martin-in-the-Fields	13,783	—	1	—	—	—	—	—	1	—	2	1·9	—	—	—	—	1	—	—	—	1	2	1·9	21	19·8	428
Strand	23,179	—	4	5	—	1	—	—	1	—	11	6·2	—	5	—	2	3	—	—	—	—	10	5·6	58	32·6	257
Holborn	32,458	—	9	12	—	3	—	—	10	—	34	13·7	—	—	—	2	1	—	—	—	—	3	1·2	53	21·3	121
Clerkenwell	65,312	1	18	12	—	6	—	—	11	—	48	9·6	—	5	3	4	5	—	—	—	1	18	3·6	93	18·6	134
St. Luke	41,168	—	3	3	—	1	—	—	6	—	13	4·1	—	1	—	1	4	—	—	—	—	6	1·9	77	24·4	120
City of London	34,832	—	11	1	—	1	—	—	4	—	17	6·4	—	—	4	—	2	—	—	—	—	6	2·2	64	24·0	159
East Districts.																										
Shoreditch	123,186	1	31	23	—	6	—	—	16	—	77	8·1	—	1	4	10	18	—	—	—	—	33	3·5	232	24·5	192
Bethnal Green	129,840	2	36	60	—	4	—	—	21	—	123	12·4	—	6	2	21	12	—	2	—	1	44	4·4	224	22·5	135
Whitechapel	75,498	1	16	11	—	2	—	1	4	—	35	6·0	—	6	2	1	9	—	1	—	—	19	3·3	146	25·2	162
St. George-in-the-East	45,360	—	16	18	—	5	—	—	7	—	46	13·2	—	11	—	3	5	—	—	—	2	21	6·0	117	33·6	173
Limehouse	57,000	—	25	12	—	3	—	—	10	—	50	11·4	—	4	3	6	4	—	—	—	3	20	4·6	116	26·5	159
Mile End Old Town	108,242	2	61	33	—	4	—	1	17	—	118	14·2	—	26	4	7	11	—	—	—	9	57	6·9	214	25·8	182
Poplar	170,217	5	55	47	—	16	2	—	24	—	149	11·4	—	1	2	10	16	—	1	—	5	35	2·7	251	19·2	139
South Districts.																										
St. Saviour Southwark	26,712	—	6	5	—	1	—	—	2	—	14	6·8	—	4	—	1	2	—	—	—	—	7	3·4	43	21·0	127
St. George Southwark	60,000	—	26	15	—	—	—	—	6	—	47	10·2	—	5	2	3	3	—	—	—	—	13	2·8	105	22·8	162
Newington	118,512	—	41	34	—	7	—	1	14	—	97	10·7	—	3	1	7	14	—	—	—	3	28	3·1	196	21·6	135
St. Olave Southwark	12,964	—	4	1	—	—	—	—	1	—	6	6·0	—	1	—	—	—	—	—	—	—	1	1·0	21	21·1	85
Bermondsey	84,053	1	20	8	—	5	—	—	4	—	38	5·9	—	5	3	1	7	—	2	—	2	20	3·1	151	23·4	169
Rotherhithe	40,345	—	21	2	—	1	—	—	2	—	26	8·4	—	1	1	—	1	—	—	—	1	4	1·3	64	20·7	177
Lambeth	282,574	1	119	45	—	10	—	—	28	—	203	9·4	—	11	9	10	6	—	2	—	5	43	2·0	403	18·6	129
Battersea	161,558	—	63	32	—	10	—	—	18	—	123	9·9	—	7	2	11	1	—	2	—	2	25	2·0	199	16·1	108
Wandsworth	179,518	—	57	38	—	7	—	2	20	—	124	9·0	—	—	3	9	3	—	2	—	4	21	1·5	185	13·4	115
Camberwell	248,893	—	74	37	—	3	—	2	34	—	150	7·9	—	2	4	6	13	—	—	—	5	30	1·6	327	17·1	132
Greenwich	173,128	3	105	51	—	22	—	4	22	—	207	15·6	—	3	5	12	22	—	3	—	1	46	3·5	285	21·5	181
Lewisham (excluding Penge)	79,908	2	29	6	—	2	—	1	7	—	47	7·7	—	—	2	5	5	—	—	—	1	13	2·1	92	15·0	189
Woolwich	42,309	1	8	—	—	1	—	—	1	—	11	3·4	1	—	—	—	2	—	1	—	—	4	1·2	40	15·4	132
Lee	28,172	7	16	2	2	4	—	—	1	—	32	10·9	2	—	—	1	—	1	—	—	1	5	1·7	38	13·0	99
Plumstead	51,233	5	30	6	—	2	—	—	3	—	46	10·1	—	—	2	2	7	—	—	—	—	11	2·4	70	15·4	89
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 41 cases of membranous croup.

† Including deaths from membranous croup.

Note.—On March 24th next the parish of Stoke Newington will be constituted a separate sanitary district, and be no longer included in the Hackney sanitary district; and on the same date the parish of Plumstead will form a separate sanitary district, the parishes of Lee, Charlton, and Eltham constituting the Lee sanitary district. In order to secure uniformity in the above table throughout the year, the figures for these four sanitary districts are shown as though the changes dated from the commencement of the current year.

in the *London Gazette*, March 13th:—Wm. Dick, M.B., C.M. Edin., F.R.C.S. Edin., served in the Nile Expedition in 1884–85, and was present in the action at Abu-Klea (medal, with two clasps, and Khedive's Star). Francis John Jencken, M.B., B.Ch. Dubl., served with the Expedition to the Soudan under Sir Gerald Graham in 1884, and was present at the engagements at El Teb and Tamai (medal, with two clasps, and Khedive's Star); also served in the Nile Expedition in 1884–85 (clasp). Henry Ogilvy Stuart, F.R.C.S. Edin., M.R.C.S. Eng., L.S.A. Lond., served in the Afghan War in 1880 in Southern Afghanistan (medal); served in the expedition to the Soudan under Sir Gerald Graham in 1884 in command of detachments of the Army Hospital Corps, and was present in the engagements at El Teb and Tamai (mentioned in despatches, medal, with two clasps, and Khedive's Star); served with the Nile Expedition, 1884–85, and was present at the action of Kirbekan (two clasps). Francis Harper Treherne, L.R.C.P., F.R.C.S. Edin., served in the Soudan Expedition under Sir Gerald Graham, in 1884, in medical charge of the 1st Battalion Black Watch, and was present in the engagements at El Teb and Tamai (mentioned in despatches, medal, with two clasps and Khedive's Star); served with the Nile Expedition in 1884–85, and was present at the action of Kirbekan (two clasps). Samuel Foster Lougheed, M.D. Queen's University, Ireland, L.R.C.S.I. John Courtnay Haslett, M.D., M.Ch. Queen's University, Ireland, L.A.H. Dubl. Herbert James Barratt, L.R.C.P. Lond. M.R.C.S. Eng. Herbert Ellison Rhodes James, L.R.C.P.L. and F.R.C.S. Eng. Henry Octavius Trevor, M.R.C.S. Eng., L.S.A. Lond., served in the Expedition to Upper Burmah, 1885–87, in medical charge of a battery, Royal Artillery, (medal, with clasp). Alexander Fraser Russell, M.A., M.B., C.M. Edin. Robert James Leech Fayle, L.R.C.P.I., and L.R.C.S.I. John William Jerome, M.R.C.S. Eng., L.S.A. Lond. William Watson Pike, L.R.C.P.I., and F.R.C.S.I. Lewis Haywood, M.B., C.M. Aberd. James Murray Irwin, B.A., M.B., B.Ch. Dubl. Patrick Joseph Nealon, M.D., M.Ch. Queen's Univ. Irel., served in the Expedition to Tambaku country, W. Africa, 1892, capture of Tambi (medal, with clasp). Ernest Octavius Wight, M.R.C.S. Eng., L.R.C.P. Edin. Francis Henry Merceron Burton, M.D., M.S. Durh., M.R.C.S. Eng., served with the Burmese Expedition, 1885-86-87, including the expeditions to Bhamo, Mogaung, and against the Kachins on the frontier of China; in charge of a section of a field hospital at Bhamo, January, 1886, to March, 1887 (medal, with clasp). Charles Edward Nichol, M.B., C.M. Edin., served with the Burmese Expedition, 1885–87 (medal, with clasp).

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments are announced: 7th Bombay Infantry: Surgeon-Lieutenant Kilkelly, on general duty, Mhow District, to the Officiating Medical Charge of the Wing at Sambulpur. 20th Bombay Infantry: Surgeon-Captain Whitcombe, in Medical Charge of the Wing, 7th Bombay Infantry, at Sambulpur, to officiate in Medical Charge until further orders. Surgeon-Captain E. H. Wright, to do duty, General Hospital, Madras, as a temporary arrangement. Surgeon-Lieutenant R. H. Elliot, M.B. and B.Sc. of London University, F.R.C.S. Eng., and L.R.C.P. Lond., to act as Professor of Biology in the Presidency College in the Fourth Class of the graded service *pro tem.* Brigade-Surgeon-Lieutenant-Colonel J. C. G. Carmichael, 1st Battalion, 3rd Gurkha Regiment, to officiate as Principal Medical Officer, Presidency District, until further orders. Surgeon-Colonel W. P. Warburton, Officiating Principal Medical Officer and Sanitary Commissioner, Assam, to officiate as Inspector-General of Civil Hospitals, North-Western Provinces and Oudh, during the absence on furlough of Surgeon-Colonel J. G. Pilcher. Surgeon-Lieutenant C. B. Martin to have Medical Charge of the Civil Station of Dinapur in addition to his other duties. Surgeon-Major A. J. Sturmer to be District Surgeon, Kistna. Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O., 2nd Battalion, 2nd (Prince of Wales' Own) Gurkha (Rifle) Regiment (the Sirmoor Rifles), has leave for one year. Surgeon-Majors Wallis, A.M.S., and Maunsell, A.M.S., have leave to England for six months. Brigade-Surgeon-Lieutenant-Colonel S. H. O'B. Banks, I.M.S., F.R.C.S.I., Presidency Surgeon, Second District, Bombay, is allowed furlough to Europe for seven months. Surgeon-Colonel G. C. Chesnaye, I.M.S., retires from the Service.

NAVAL MEDICAL SERVICE.

The following appointments are notified: Staff-Surgeon: Frederick A. Trevan, to the *President*, temporarily. Surgeons: Sidney H. Youel, to Devonport Dockyard; Ernest E. P. Tindall, to the *Mistletoe*; G. D. B. Levick, to the *Wanderer*; Morris C. Langford, to the *Scalark*; Henry N. Stephens, to the *Martin*; Percy H. Boyden, M.B., to the *Seaflower*; Samuel J. Oddie, M.B., to the *Nautilus*; Edward A. Rogers, to the *Pilot*; and Edward T. Meagher, to the *Liberty*. Surgeon and Agent: J. Cunningham, at Newbiggin.

YEOMANRY CAVALRY.

Berks: Surgeon-Captain R. H. Barker, M.D., resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Corps on his retirement.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion, the Prince of Wales's Own (West Yorkshire Regiment): Samuel Lodge, M.D., to be Surgeon-Lieutenant.—3rd London: Surgeon-Lieutenant W. M. Abbot-Anderson, M.B., to be Surgeon-Captain.

RECRUITING FOR 1893.

The annual report of the Inspector-General of Recruiting for 1893 is a rather voluminous document, divided into five parts, with a general summary, which it is somewhat difficult to analyse briefly. As far as a general conclusion is concerned, however, General Fielding's report is very satisfactory. The effect of the changes made in 1892, by which the advantages offered by the army and militia have been made more generally known, seems to have been good. Although the total number of recruits passed into the service was fewer in 1893 than in 1892, the ranks were nevertheless fuller by 1580 men on Jan. 1st, 1894, than they were on the same date in 1893. This, combined with the very large diminution in the proportion of men enlisted under the standard and the fact of the British establishments having been practically complete on the day of the departure of the first drafts for India, shows that the number of recruits obtained was sufficient for the purposes of the army, whilst the reports as to their character, conduct, and satisfactory growth are stated to be very encouraging. The Inspector-General reports that the medical inspections have been very strictly carried out, the proportion rejected per 1000 inspected during the past year having been 410, as against 382 per 1000 in 1892. General Fielding remarks that it is not easy to raise more than 23,000 recruits for the regular army in one year who are up to the regulation maximum standard. As regards the Medical Staff Corps, it is stated that this corps was allowed to attest 115 men, who, although above their standard of height, had been trained in the newly formed Militia Medical Staff Corps, or who had, whilst civilians, been in some employment of a nature germane to that of the corps. It has been very properly urged that the present physical standard for the men of this corps is an inadequate one when the nature of their duties on field service is taken into account.

CHEST DEVELOPMENT IN THE ARMY.

In the course of the discussion which followed the lecture, recently given by Surgeon-Captain A. L. Hoper-Dixon, Medical Staff, at the Royal United Service Institution on "The Art of breathing as applied to physical Development" General Fielding, Inspector General of Recruiting, remarked that if some scheme could be put forward by the Army Medical Department by which an efficient course of breathing drill could be applied to every recruit when he first entered it would be a great benefit to the army. We may remark that the lecturer had a good deal to say on the relationship which existed between the correct process of respiration and the physical development of the chest, and with the aid of some men of the Medical Staff Corps he gave a practical illustration and demonstration of the advantages of the exercises he advocated. We suggest that he might usefully draw up a short code of directions formulating the points to be attended to and submit it to the proper authorities for consideration.

THE ARMY ESTIMATES.

The Army Estimates for 1894–95 have just been published, accompanied by a memorandum from the Secretary of State. The sum required amounts to £18,081,000, being an increase of £278,100 as compared with the Estimates of the previous year. There is an increase of £308,100 for the effective services, but for the non-effective services there is a decrease of £30,000. The estimate for the medical establishments is £290,000, being an increase of £1800. On Jan 1st, 1894, the total number of effectives, inclusive of India was 219,400, being 2301 in excess of establishment.

Measures had been adopted to equalise the number of battalions at home and abroad, but circumstances in connexion with Egypt had not yet admitted of this being fully effected. The progress made in recruiting for the army is reported to be most satisfactory. We hope in next week's number of THE LANCET to advert more in detail to some of the points which are of more immediate interest to the medical service.

THE GIBRALTAR DRAINAGE SCHEME.

The committee on the Gibraltar drainage question have recommended in their report to the Colonial Office that scheme which proposes to have its outfall at Europa Point, at the southern aspect of the rock, by which the discharged sewage will go straight out to sea. Several proposals have been put forward, but it is considered by the committee that this scheme will consume less time and labour in its execution and be preferable to that which proposes to tunnel a passage through the rock. It will be remembered that this question of the drainage of Gibraltar gave rise to a good deal of controversy and discussion some time ago, and that a deputation from the residents and civilian local authorities came to this country in order to represent their views to the Government. The subject is one of obvious importance to the health of both the garrison and the civil population of Gibraltar.

A sum of Rs. 23,000 has been provided in the military budget estimates of 1894–95 for grants-in-aid for cantonment hospitals in the Madras Presidency, including Burmah.

The *Indian Medical Record* states that the appointment of Secretary to the Principal Medical Officer in India at Simla, held at present by Surgeon-Lieutenant-Colonel Exham, A.M.S., is to be abolished, the second Secretary, an Indian medical officer, taking over the dual duties.

Correspondence.

"Audi alteram partem."

"AERIAL CONVECTION OF SMALL-POX FROM HOSPITALS."

To the Editors of THE LANCET.

SIRS,—I wish to thank Dr. McVail for his reply to the questions suggested by his paper on the above subject. The questions were so numerous, and, for the sake of succinctness, so briefly expressed, that my letter has, I find, an air of abruptness which might possibly give an erroneous impression as to the value I attach to Dr. McVail's paper. And, as my questions referred only to points which appeared obscure, I hope you will allow me to say here that it seemed to me that at the adjourned discussion at the Epidemiological Society hardly sufficient importance was attached by some of the speakers either to the strength of the evidence which Dr. McVail brought forward or to the importance of the conclusion to which he came—namely, that small-pox infection may spread to a greater distance than is usually supposed. I find that Dr. McVail takes exception to certain parts of my letter. He asks in a footnote why I applied the term "nautical" to one of his analogies. It was a mistake. Nautical people, I have noticed, often make use of analogies referring to tides and waves, but no nautical person would be likely to speak of waves as constituting flood tides. I must apologise to Dr. McVail for having made a mistake as to what he meant in reference to conclusions arrived at by Dr. Whitelegge. The observation that at the beginning of an epidemic in a previously unaffected population there are more susceptible people than there are later on in the epidemic is the point to which I referred. I did not assert that Dr. McVail said that this was an original observation of Dr. Whitelegge, but I did suggest that he implied it. I thought, and still think, that in so far as Dr. McVail referred to this observation in speaking of "Dr. Whitelegge's conclusions" he implied that the conclusion was Dr. Whitelegge's.

With regard to the question raised as to the contagium of small-pox, there was a verbal error in my query. Dr. McVail has kindly pointed this out and given some interesting speculations as to the intensity of the virus at the beginning of an epidemic and during a rising epidemic. On this subject I have no wish to make critical comment, for medical speculations are to me of interest in so far only as they are supported by facts, and the facts are not given by Dr. McVail. Nothing is further from my wishes than to enter into an argumentative discussion; but, whilst thanking Dr. McVail for the trouble he has taken in replying to my letter, and whilst readily crediting him with a desire to enlighten me, I must confess that he has not done so. This may possibly be due to obtuseness on my part, but I think he will readily admit that he has not answered the questions I asked, which arise out of his conclusion that "there must apparently be intensity of virus depending on minor waves of epidemicity referring to particular days or weeks, these waves constituting flood tides of infectivity." The question is: "What are possible minor waves of epidemicity?" Dr. McVail has not explained what he means by waves of epidemicity, and, as I have not been fortunate in putting Dr. McVail's figurative expressions into ordinary language, I should be really glad to learn what he means. If there are possible minor waves of epidemicity, how do they modify the intensity of the virus? This, I confess, is incomprehensible to me, and Dr. McVail has not explained what he means. In what way do minor waves of epidemicity refer to particular days or weeks? And how do minor waves of epidemicity constitute flood tides of infectivity? I shall be really grateful if Dr. McVail will explain these points. I can assure him I am not alone in being unable to understand what he means. He points out in his letter that the literature of the subject is full of reference to epidemic waves, and that he has found them useful. For my part, I admit that expressions concerning "epidemic waves," "epidemic constitution," and such like have seemed to me to darken counsel by words without knowledge.[1] In the case of the older writers such expressions were certainly used as a cloak to, rather than as a confession of, ignorance. I have no doubt that Dr. McVail, however, attaches a definite meaning to the expressions he uses, and that they are, therefore, capable of being put into simple words. The letter Dr. McVail wrote in answer to mine does not do this. He says that rhythm is a law of nature; that this law applies to individual cases of disease, and especially to infectious disease; and that epidemics are examples of the law of rhythm. I will not venture to comment on these curious assertions more than to say that they do not answer the questions I ventured to ask.

I am, Sirs, yours truly,

RICHARD SISLEY.

York-street, Portman-square, March 6th, 1894.

KITCHEN BOILER EXPLOSIONS.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to two articles on the above subject which appeared in THE LANCET, one on Jan. 13th and the other on Jan. 27th, and everyone will agree with you in desiring the prevention of these sad catastrophes, which, though not on so large a scale and therefore not so impressive as the explosions of ordinary steam boilers, are yet very fatal, while they have unfortunately an importance of their own, inasmuch as they invade the sanctity of the home and strike terror into the family circle. So numerous are they that I have by me a list of thirty-eight explosions which occurred in the short interval between Friday, Jan. 5th, and Tuesday, Jan. 9th, killing twelve persons and injuring thirty-three others. As the Manchester Steam Users' Association has for the last thirty years been paying attention to this subject, visiting the scene of the explosions and examining the fragments in order to arrive at the cause of the disaster, while, in addition, it has instituted several experiments to ascertain the effect of charging red-hot boilers with cold water, it may be of assistance in this matter if I give you the results of its experience. The Manchester Steam Users' Association has invariably found on investigating kitchen boiler explosions that the circulating pipes between the boiler and the overhead cistern have been stopped up, the stoppage arising in some cases from the pipes being choked with ice, and in others from the stop-taps in the pipes being closed and the thoroughfare thereby shut off. In consequence of this the pressure has been "bottled up" and has gone on accumulating until it has become too strong for the boiler, and explosion has resulted. While the explosions due to the choking of the circulating pipes with ice are, of course,

[1] Job xxxviii., v. 2.

confined to the winter time, those due to the shutting of the stop-taps in the circulating pipes may occur at all seasons, and several have occurred in the summer time. This clearly shows that they cannot be due to the dropping of a little ice into a red-hot boiler, while, as the stop-taps have been found to be closed after the explosion, neither can they be due to the readmission of the feed.

In 1867 the Manchester Steam Users' Association conducted a series of experiments in order to ascertain the effect by actual test of injecting cold water into red-hot kitchen boilers. For this purpose it made three such boilers, two of copper and one of cast-iron, red-hot, and then injected cold water. No explosion, however, took place, the boilers were not stirred from their seat, neither did they tremble nor evince the slightest signs of internal commotion. In 1879 the Manchester Steam Users' Association tried a series of red-hot furnace crown experiments with a full-sized Lancashire boiler, 27 ft. 9 in. in length, 7 ft. in diameter in the shell, and 3 ft. in the furnace tubes. The furnace crowns were heated to redness and then cold water showered upon them through a perforated pipe. This was done repeatedly. When the safety valves were blowing off at 25 lb. on the inch no appreciable rise of pressure took place, but when the pressure in the boiler was only at 6 lb. and the safety valves were shut down the pressure rose from 6 lb. to 27 lb., after which it gradually fell. The rise, however, was not instantaneous, but took three-quarters of a minute. These experiments with kitchen boilers, as well as those with the Lancashire boiler, plainly show that the idea that the injection of a little cold water into a red-hot boiler is accompanied with an instantaneous and irresistible generation of steam, equal in force to the explosion of gunpowder, is unfounded. Further, I have before me the fragments of a stone bottle which was placed in an oven when full of water, and with the cork tied down, in order that it might be heated and used as a foot-warmer by an invalid. Suddenly, as the family were sitting round the fire, the bottle exploded, blowing out a portion of the oven, killing a little girl, severely scalding a little boy, and also scalding their mother. In this case it must be clear that the frost had nothing to do with the explosion, that there was no dropping of ice into the bottle when empty and heated, as is supposed to be the case when kitchen boiler explosions occur, nor was there any readmission of the feed. The bottle burst simply from a gradually accumulating pressure, which had no opportunity of escaping, as the cork was tied down, just as an ordinary steam boiler bursts when the safety valve is overloaded. From the numerous examinations of exploded boilers the Manchester Steam Users' Association has made, as well as from the experiments it has conducted, it has come to the conclusion that kitchen boiler explosions are not due to the thaw but to the frost, that they are not due to the instantaneous generation of steam, but to a gradual accumulation which a small safety valve is able to relieve.

With this view the Manchester Steam Users' Association recommends that a safety valve should be fitted to every kitchen boiler, and considers none so simple or reliable as one of dead weight construction without either guide spindle or wing, so that there is no fear of its sticking fast. This should be fixed as near the boiler as possible, the connecting pipe not being more than six inches in length. It should be enclosed in a small cast-iron box with a hinged door so as to be protected from injury, while the door would admit of its being examined whenever that was necessary. To see that the passage through the pipe connecting the boiler to the safety valve is open the valve should be lifted occasionally, and if the water squirts out it will show that this is so. Should a little piece of grit get under the valve and prevent its reseating and cause it to leak slightly the valve may be lifted again, so as to blow the piece of grit away, or the valve may be turned round so as to grind it out. I have known these valves to work for years without giving trouble, and am told that one maker alone has sold about 10,000 of them.

In conclusion, I would strongly recommend every householder to have a safety valve fixed to his kitchen boiler before the occurrence of frost for his own safety and peace of mind. It can be procured for 10*s.* 6*d.*, and fixed complete for about 20*s.* The publication of this letter will, I trust, assist in preventing a recurrence of these alarming disasters.

I am, Sirs, yours faithfully,

LAVINGTON E. FLETCHER, Chief Engineer.

Manchester Steam Users' Association, 9, Mount-street, Albert-square, Manchester, Feb. 19th, 1894.

*** We print this practical letter with great pleasure, and think it only right to add that the Manchester Steam Users' Association is not a company working for profits, and has no motive other than a philanthropic one for desiring the public to adopt the safety valves recommended by Mr. Fletcher, their chief engineer. Pressure on our space and the somewhat lengthy nature of Mr. Fletcher's communication have prevented earlier insertion.—ED. L.

"CHRONIC IRRITATION IN CANCER."

To the Editors of THE LANCET.

SIRS,—It is an old saying that there is nothing new under the sun. The history of medical doctrines certainly often endorses this. Again and again, as the years roll by, the same old doctrines, in slightly varied form, wax and wane. In connexion with modern ideas as to the pathogeny of cancer and other neoplasms there is no more striking fact than the widely-prevalent effort, amounting to a pandemic, now being made to resurrectionise the doctrine of Broussais as an adjunct to the microbe theory. That great man's name has, I believe, never before been prominently mentioned in this connexion, but the order of the day to regard cancer, sarcoma, and other neoplasms as the outcome of chronic inflammation precisely reproduces his doctrine. The wide range and the extreme simplicity of this brilliant generalisation are certainly most captivating. I should be really delighted to be able to accept it, not only on this account, but also because the germ theory would thereby be rendered paramount in pathology. Unfortunately, however, I am obliged first of all to consider the facts. For ten years—regardless of theoretical considerations—I have diligently recorded and classified facts relating to cancer and other neoplasms; and I find that these cannot be harmonised with this conception. In what I have to say on this important subject I hope I shall be able to express myself in such a way as not to be misunderstood. I am persuaded that the facts justify the belief that repeated irritations of long duration and moderate intensity are, in a certain proportion of cases, the precursors of neoplasia. Further, I think that we are justified in believing that parts thus chronically irritated may thereby be rendered more apt to take a neoplastic action than they otherwise would have been. Thus may we account for the great relative frequency with which certain cutaneous cancers are met with in chimney sweeps and other workers in irritant substances—e.g., tar, paraffin, &c.; but this conclusion is, I submit, as far as the facts justify us in going, a totally different thing from admitting that chronic inflammatory lesions are the necessary antecedents of cancer. It is against this doctrine that I protest; for, so far as I have been able to ascertain, the facts are decidedly against it. In my former letter I referred only to cutaneous cancers, because Volkmann's data are also based on cancers of this part; but I should not have expressed myself so emphatically had not these indications been fully confirmed by careful inquiries as to the association of the onset of cancer with pre-existing local disease in other parts of the body.

In the case of the female breast no inflammatory lesion seems more likely to be the precursor of cancer than chronic mastitis, and since this disease gives rise to tumour-like induration its presence can hardly be overlooked; yet, how rarely does mammary cancer ever appear to start in connexion with such indurations. I have met with this conjunction only twice in 137 cases, and among the numerous cases analysed by Gross,[1] in only 49 out of 907 (5·4 per cent.) did the cancer appear to develop in this way. Hence it appears to me to be improbable that chronic mastitis plays an important part in the genesis of mammary cancer. It tends to confirm this view that cancer of the breast is relatively of almost as frequent occurrence in the single as in the married. This is proved by the following facts. According to Gross,[2] among 1545 women with mammary cancer 85·5 per cent. had married and 14·5 per cent. were single; other estimates give the proportion of married at about 80 per cent. In the general population, according to Farr,[3] only 79 per cent. of women over twenty-four years of age ever marry, and in London the proportion of single women is higher. This shows the folly of regarding marriage as *per se* a cause of cancer, as some maintain, monogamy, according to these views,

[1] International Journal of Medical Sciences, March, 1888, p. 222.
[2] Op. cit., p. 220.
[3] Vital Statistics, p. 20.

being more pernicious than polygamy, as being the more "irritative." It accords with the foregoing that cancer, sarcoma, and other mammary neoplasms rarely arise during the lactation period. Among 71 prolific women suffering from breast cancer who were interrogated by me, in 3 the onset of the disease coincided with childbirth, in 2 with miscarriage, and in 4 it occurred during the lactation period. The acute cancers that sometimes arise during pregnancy and lactation are in the highest degree exceptional. It may be inferred from what has been stated that the due discharge of natural functions in no way predisposes to cancer. Of 165 female breast cancer patients consecutively under my observation not a single one, so far as I could ascertain, had ever been addicted to prostitution, and, what is still more remarkable, there was not among them a single individual who presented undoubted signs of having had syphilis. The *ensemble* of facts relative to the life history of breast-cancer patients shows that they have almost invariably led regular, sober, and industrious lives. Persons of drunken and dissolute habits are comparatively seldom thus affected. The facts relating to the origin of uterine and most other forms of cancer and pre-existing disease of the past are of similar tenour.

In the matter of questions Mr. Lennox Browne has favoured me with rather a large order. In the brief space at my disposal it is impossible adequately to answer them all, especially as in several respects the requisite data are non-existent. I think he will find a sufficient answer to most of his queries in what I have stated above. Perhaps the following data collected by myself from cancer patients under treatment at the Middlesex Hospital will be serviceable, although as isolated facts I think they are not of much account. To appreciate their real significance they should be studied in connexion with other considerations bearing on the subject. The proportion of non-smokers who get epithelioma of the lip is 2 out of 26 cases. The proportion of non-smokers who get epithelioma of the tongue is 6 out of 70 cases. The proportion of those who have syphilitic and other chronic lesions of the tongue is 30 out of 70 cases. The proportion of non-syphilitics who get cancer of the tongue is 51 out of 80. I must refer those desirous of pursuing this matter further to my previous publications,[4] wherein full details of the cases referred to will be found, as well as of many other matters relating to this important subject.

I am, Sirs, yours truly,

Preston, March 1st, 1894. W. ROGER WILLIAMS.

"MORTALITY FROM CANCER."

To the Editors of THE LANCET.

SIRS,—Dr. Lyon's position, as explained in his last letter, appears somewhat inconsistent, for he accepts the conclusions of Mr. King and Dr. Newsholme and praises their methods while rejecting the data on which the conclusions are based. Moreover, he argues from the curves, but refuses to consider the figures which they illustrate; but no doubt these apparent inconsistencies and his failure to make his meaning plain have been due to the exigencies of space, and as he has admitted the value and the conclusions of the paper, and by implication the value of the Frankfort figures, I do not propose to occupy your columns by any further public discussion of the matter.

I am, Sirs, yours faithfully,

March 10th, 1894. F. R. WALTERS.

"THE CHELSEA HOSPITAL FOR WOMEN."

To the Editors of THE LANCET.

SIRS,—A letter containing similar charges to that preferred against me by Mr. Wright, treasurer to the hospital, in your issue of to-day's date, has been sent to the chairman of the Chelsea Vestry and to the Local Government Board. This letter has been referred to me by the vestry for report, and no doubt also the Local Government Board will require to be furnished with a report. Under these circumstances it is impossible for me to reply to the assertions made in Mr. Wright's letter to you, and I must ask your readers to suspend their judgment as to the truth of the allegations for the present.

I am, Sirs, yours truly,

Cadogan-square, S.W., March 10th, 1894. LOUIS C. PARKES.

To the Editors of THE LANCET.

SIRS,—I trust you will kindly find space for this letter in reference to Dr. Parkes' report upon the Chelsea Hospital for Women. I may say that I have no concern with the affairs of the hospital, but Dr. Parkes' report to the Chelsea Vestry of March 6th, 1894, opens a very wide question and concerns every hospital where operations are performed and everyone who performs them. He suggests that all deaths occurring after operations should, on his *ipse dixit*, be referred to the coroner for inquiry; his reasons being set forth as follows: "It would be different, no doubt, if surgical operations were always undertaken with a view of saving life; but this is far from being the case, many operations being of course undertaken to remove deformities or mitigate pain and suffering in more or less chronic ailments." The result of this proposition, if carried into effect, would be that unless operations were undertaken solely with the view of saving life, that in the event of the patient dying after the operation, even from causes more or less remote, the operator would be tried by the coroner. What, then, would become of unfortunate patients suffering, for example, from piles, enlarged tonsils, resection of joints, varicocele, floating kidneys, laryngeal growths, hernia, &c., whose lives are unendurable from these and a hundred like causes, operations for the relief of which are sometimes followed by death; in such cases the penal prospect of a coroner's inquest would deter many a man from operating, and thus a vast amount of human suffering capable of relief would remain unrelieved. And where, may I venture to inquire, is the "universal specialist" to be found who is capable of judging as to the necessity or otherwise of all the operations performed in every branch of surgery? It seems to me a most ill-judged and dangerous proposal, and if followed to its logical conclusion must affect the realms of medicine as well as those of surgery, and compel every physician to run the gauntlet of a coroner's inquest if, after he has ordered a dose of medicine "to mitigate pain and suffering," the patient should chance to die. I respectfully suggest that some combined representation should be made to the authorities about this matter.

I am, Sirs, yours truly,

GEORGE STOKER, M.R.C.P.Irel.,
Physician to the London Throat Hospital.

Hertford-street, Mayfair, March 10th, 1894.

"THE ELECTRICAL TREATMENT OF INFANTILE PARALYSIS."

To the Editors of THE LANCET.

SIRS,—Amongst the many points of interest dealt with in a paper read before the Medical Society of London on the 5th inst. and reported in THE LANCET of the 10th inst., on the above subject, there is one which seems to me to merit further consideration. After describing the various forms in which infantile paralysis had presented itself to him, the writer of the paper in question proceeds to lay down "a routine treatment." This seems to consist of testing the muscles, measuring the limb, noting faulty positions, and handing over the case to the mother for electrical applications. "He had found that mothers could easily be taught where to place the electrodes." This, of course, must be conceded, in the same way that mothers can easily be taught where to apply a poultice; but does the question rest here? To me it appears that after all that has been done of late to rescue medical electricity from the hands of incompetent persons, and in view of the strides that have been made towards accuracy of application and exactness of electrical "dosage," such a procedure as that advocated above—even in view of the exigencies of the out-patient department of a general hospital—is distinctly retrograde; and not only retrograde, but what of the risks? Are there not, for example, cases where a little lingering flicker of neuro-muscular excitability may be altogether extinguished by the very slightest amount of over-stimulation and perhaps irreparable mischief caused? This question of self-treatment by patients and treatment by nurses and friends, has been asked and answered by most of those who have a right to be listened to on the subject, and their almost invariable answer is

[4] Especially to the Middlesex Hospital Surgical Reports for 1888 and 1889 as well as for the six preceding years; also to the Medical Chronicle for March and May, 1893.

"emphatically no." Even in a text-book which bears on its cover the name of the writer of the paper in question there appears the following sentence: "When patients are left to themselves with a battery the results are uniformly unsatisfactory, and the usual consequence is solely to bring medical electricity into disrepute." If this be true of patients, who at least have their own sensations to guide them, how doubly true is it when applied to the case of the little patients in question. In my experience it not unfrequently happens that a child brought to me for electrical treatment begins to cry or scream at the first sound of the contact-breaker, and can scarcely be prevailed upon to approach the instrument. This is not always childish fear or fancy. It often tells a tale of previous faradaic torture, needlessly, though with the best intentions, inflicted by a nurse or mother, and possibly even may point to former "vigorous faradaisation" at the hands of some practitioner who is "duly qualified"—in everything but to handle an electric current.

I am, Sirs, yours truly,

Brighton, March 12th, 1894. W. S. HEDLEY.

"THE MUIRHEAD COLLEGE FOR WOMEN, GLASGOW."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 10th, Dr. J. Lindsay Steven of Glasgow does me the honour to criticise a short article on the above subject which appeared in your columns a week earlier. His letter, which—like everything from Dr. Steven's pen—is both thoughtful and original, earns for him the gratitude of all who are interested in medical education, particularly the medical education of that unimportant person the male student. It is questionable, however, whether it will bring him the thanks of those who are striving to obtain for women a rational share, not only in the world's work, but also in the educational advantages which may qualify her for that work. His protest against further expenditure of money on separate colleges, and his aspirations for "emancipation" in the form of compulsory mixed classes, give no help at all towards the settlement of the actually existing difficulty between the University and the Muirhead trustees. The adoption of his suggestion would simply mean the handing over of funds to the University on the understanding that the latter should open all its classes to women—a course which the trustees are entirely incompetent to take under the conditions of Dr. Muirhead's will. But the general question which Dr. Steven raises, his confident prediction as to the future of women and her educational emancipation, and his frank avowal of the end which he and, perhaps, some other medical reformers have in view, are matters of much greater interest, though they are calculated to give pause to many who, while actively friendly to every scheme for the promotion of the higher education and culture of women, are yet not sufficiently advanced to contemplate with satisfaction the compulsory association of the sexes in the study of medicine. Dr. Steven is good enough to admit that there may still be room for a school for women who do not wish to join a mixed class, though apparently he has no belief in the existence of such women—unless, indeed, his remark that "if women have the option of joining a mixed class, there will be no students for the Muirhead College," is to be interpreted in a jocular sense. He has no objection to such an arrangement so long as women are not compelled to attend a separate class, while at the same time he claims for them the right of entry into the ordinary University classes! This may be "emancipation," but where is the justice of it? Is it the mere equality of the sexes, or the actual supremacy of one of them, which Dr. Steven desiderates? And what of the male student? Is he unworthy of consideration, that he should be compelled (to quote Dr. Steven's own word and his own italics) to seek his medical education in mixed classes? Or does Dr. Steven look forward with complacency to the time—not so very distant, if his predictions are reliable—when the philanthropist will bequeath his superfluous thousands to found colleges "for men only"? There is not the slightest evidence that the general aversion to mixed medical classes is rapidly disappearing, and Dr. Steven must not assume that it is based merely on unreasoning prejudice; it owes it existence to an instinct much more deeply grounded and more durable—to a belief, namely, that while men and women are equal they are also different, destined and qualified by nature to play different but complementary parts, that as a necessary consequence their training and education must in many essential respects be different, while their relation to each other must be marked by a degree of delicacy and consideration which, however attainable in most matters, is scarcely compatible with the association of the sexes throughout the greater part of the medical curriculum. Further, it is my belief that there is no urgent desire on the part of the women students for the enforced association which Dr. Steven calls for.

There are some other matters of special local interest in Dr. Steven's letter to which a little attention should be given. For example, as an argument in favour of mixed classes, he says that the professors in Glasgow who have chosen or have been requested to teach the women students will not long be permitted to depute the greater part of that teaching to assistants, and it is unlikely that they will long agree to deliver the same courses of instruction daily to two separate classes. This, it may in the first place be noted, is an argument which cuts with equal efficacy both ways, being even stronger for than against separate colleges and separate teachers; while, in the second place (if such an oracular statement is to be taken as authoritative), it may be commended to the careful consideration of those professors in Queen Margaret College who have not yet been superseded by the professors in the University.

Does Dr. Steven, being still in the prophetic vein, here foreshadow a process, more or less gradual, of displacement all round? Again, it seems to me that Dr. Steven treats Dr. Muirhead's memory with scant courtesy. I find no trace of undue "vanity" in Dr. Muirhead's will. If a man is generous enough to leave his money to build and endow an institution which he honestly believes will confer much-needed benefits on woman, and when this is done to honour the memory of his mother, his wife, and his sister, he may be excused if he gives it the name which the ladies and he himself so worthily bore. The provisions of the will, in fact, go even further towards the advancement of the interests of woman than Dr. Steven may have contemplated, inasmuch as it is stipulated that the Muirhead College shall "be managed as much as practicable by women," and it is further provided that the institution shall be intended "for the education of women by women, as far as that can practically and judiciously be carried out," opening up thus for women a prospect of really attainable "emancipation" in one direction at any rate. What would not be given now by those good ladies who did so much for Queen Margaret College in its early and struggling days to have retained in their own hands, when making their bargain with the University, even a shred of influence over the destinies or control over the management of their college? The thoroughness with which these ladies have, perhaps unwittingly, divested themselves of power, and their natural chagrin on discovering this, may all be read in the pages of the *Glasgow Medical Journal* for January and February last. It may now be suggested to these same ladies that, by way of compensation, they may find in the Muirhead College a most suitable and congenial outlet for their sympathy and influence. Dr. Steven also would probably do more for the cause he has so much at heart by directing his talents and enthusiasm in the same channel, and thus aid in preventing what would be a calamity for the Glasgow school—the establishment of two competing schools for women, where, with a little management and conciliatory negotiation, one strong and financially sound college is easily possible. There is only one other point on which I should like to set Dr. Steven right: The article in THE LANCET of March 3rd contains no "threats," veiled or otherwise, "levelled at the University Court." It reports simply certain facts, and contains a few quite legitimate inferences from these facts, some suggestions (offered with all humility and diffidence) to the University authorities as to what seemed a reasonable course of action, together with some speculation (or prognosis) as to the future of medical education for women. It is scarcely fitting that Dr. Steven, who himself betrays a genius for prediction, should chide me for numbering myself with the prophets, even with the minor prophets.

I am, Sirs,

Glasgow, March 15th, 1894. YOUR OWN CORRESPONDENT.

"DARWINISM AND RACE PROGRESS."

To the Editors of THE LANCET.

SIRS,—The lectures of Professor Haycraft on "Darwinism and Race Progress" are exceedingly able and suggestive and

it would require one as deeply versed in biology as Professor Haycraft himself to criticise the lectures from that point of view; but we all may, and must, consider the serious aspect of certain questions raised in this pronouncement. These lectures are especially valuable as showing to the more thoughtful members of our profession where we stand to-day—according to the teaching of present-day biology, to which we are invited to listen, and to which we give a respectful hearing on account of its elaborate and laborious research. The especial value to which I refer, however, arises from the conclusions which are now, after thirty-five years of the doctrines of Darwinism, put before us as medical men, and which, it is feared, may go out to the public as final. Is it not true, and somewhat in danger of being forgotten, that the "law of evolution" with its different branches remains, after an unparalleled amount of enthusiastic study, an *unproved theory?* This was emphatically brought before the scientific world by Professor Virchow a few years ago. If this be so, it seems premature to advance such deductions as are drawn in these lectures, unless it be to anticipate the fall of evolution from its throne by a *reductio ad absurdum* applied to a very large branch of that law.

We are told that there is reason to believe that, on account of improved external conditions, and notably the sanitary advances due to the efforts of preventive medicine, the race is deteriorating in general constitutional robustness, and that this deterioration is due largely to the removal of certain selective agencies. These propositions, if established, go very near to a complete disproof of the theory of progress by natural selection as applied to the races of mankind. We are now urged to take the progress of the human race, by our own act, out of the influence of natural selection, which has become unequal to the task. We should have thought that civilisation and the advance of sanitary science would be looked upon as integral parts of evolution and race-progress rather than as tending to a process of race-destruction. It is asked, Why should the microbe select? Why not public humanity and public reason, since selection there must be? This notion reminds one of the proceedings of an intelligent gardener operating upon non-intelligent organisms and puts the State, guided by medical opinion, into the honoured position occupied hitherto by the microbe *et hoc genus omne.* It is now artificial, not natural, selection which is to prevail. "Preventive medicine is trying a unique experiment, and the result is already discernible—race decay"; so that now in 1894 the experiment has gone far enough and must be modified. The individual has been largely benefited, but the experiment is inimical to race progress. One may remark in passing that in all this teaching we seem to be preparing to go back to the crude doctrines of Plato as to the duty of the State to eliminate the weakly and useless members of the community, ignoring the very genius of the Christian religion, which separates it from others, by which the lowest, vilest, and outcast members of the community are deemed worthy of being rescued and improved. This principle of raising the fallen, of helping the helpless, runs throughout all the beneficent work of the medical profession, and our warfare, and that of philanthropists and ministers of religion, is dead against all the selective agencies spoken of as friends of the human race. But perhaps for centuries the more enlightened men and women have been mistaken as to what progress means; for certainly hitherto general constitutional robustness has been considered as only one of the important factors of progress. If the conclusions of these lectures be true, and our minds dwell for a moment on the army of earnest workers engaged in the study of the prevention and cure of such diseases as tubercle, insanity, and alcoholism—and on all that has been done to improve prisons, remove gaol-fever, and keep prisoners alive; to establish reformatories and orphan homes; to change lunatic asylums from criminal prisons into hospitals for the cure of the insane; to diminish intemperance; to bring, if possible, public opinion to bear upon the horrors of Siberian prisons; and to avert the "selective influence" of the battle-field—we may well stand appalled in thinking of the amount of evil in hindering race-progress which the workers in these fields have wrought. We have indeed been glorying in our shame. The introduction of a higher standard of comfort into the community is looked upon as one of the foes to race progress, and yet, if any prophecy be safe, it is clear that socialism, more or less, must prevail in civilised countries, however we may deplore many of its tendencies; but socialism is gaining ground in the masses in all civilised nations, and with the masses the chief power will surely rest. One of the cardinal doctrines of socialism is the raising of the standard of the comforts of life in the commonwealth, which involves the diminution of the need for self-help, and thus, we are told, race decay. So that we see that the immense and growing movement of socialism and the general trend of human benevolent desires and efforts are in many ways adverse to race progress if the teaching of these lectures be true. The important questions must be asked, Is continuous progress the destiny of the human race? and are we racially "as everlasting as life itself"? The failure of natural selection admitted in these lectures would answer, "No!" But surely there are other tribunals besides that of biology before which these questions may be brought?

I am, Sirs, yours truly,

March 13th, 1894. WALTER KIDD, M.D. Lond.

AN ALLEGED ANTIDOTE TO MORPHIA.

To the Editors of THE LANCET.

SIRS,—Three or four weeks ago a sensational article appeared in the *New York Herald* stating that Dr. Moon had discovered a means of making morphia harmless by the administration of permanganate of potash. He had been experimenting for some time on himself, and, finally, sure of his result, he offered to swallow three grains of morphia before a medical society. The members refused to be a party to his suicide, and even the chemist would not consent to weigh out the three grains. Dr. Moon persisted in his demonstration, when a number of medical men left the room; but after the morphia and antidote had been swallowed he was none the worse, and the news of the discovery of an antidote for morphia poisoning and chronic morphine habit was telegraphed to the world. To anyone acquainted with the question it was obvious that a man who had been experimenting upon himself with morphia for some time might easily have acquired a tolerance to the extent of three grains for the drug, and as regards the morphia habit it is impossible to see in what way what practically comes (if it is true) to the neutralisation of the drug can be any advance upon simply suppressing it. On March 1st the *Herald* printed another article, to which I replied in a letter which was inserted on the 5th. No doubt Dr. Moon is of good faith, and when he sees his fallacy, should there be one, he will acknowledge it, but in the meantime it is not unlikely that speculators whose interest is to follow up any plausible new treatment—and we have had too many cases within the last few years—will entice the public to a method which has not a shadow of possible success.

I am, Sirs, yours truly,

Avenue Kleber, Paris, March 13th, 1894. OSCAR JENNINGS.

CHICKEN-POX IN ADULTS.

To the Editors of THE LANCET.

SIRS,—The recognition of the fact that chicken-pox does occasionally attack adults is just now of importance. Twice during the past two years I have been called in consultation where small-pox was suspected and in which the disease proved to be chicken-pox. The patients in each case were young adults. The vesicular eruption was well marked, and the umbilicated appearance of some of the vesicles led to the suspicion of small-pox.

I am, Sirs, yours truly,

March 13th, 1894. JOHN C. THRESH.

METHOD IN CLINICAL EXAMINATION.

To the Editors of THE LANCET.

SIRS,—It seems that at the clinical examinations in medicine held by the London Conjoint Board a great deal of importance is attached to the *method* of examining the patient, and less to the correct diagnosis of the case. Method certainly is essential; but all candidates cannot be aware of the particular one required by the examiners, and most of them, unless possibly forewarned by clinical teaching in London, attempt to make diagnosis as quickly as possible, and believe that it is an advantage to do so. Probably the examiners expect an examinee to go beside the patient with a mind wholly without bias, and then to work in a formal, mechanical

method—step by step. This plan may be correct in theory, but, as we know, it is not followed either in general or consulting practice. There are schools in which what I may term the "Sherlock Holmes method" is encouraged, and students are asked to diagnose a case by looking at the patient's aspect and attitude in bed when covered by the bed-clothes. At the conjoint examination I am aware of three instances in which the diagnosis made was stated to be correct, but the examinees did not pass because their "method" was not approved of. An examinee, for example, taken to a patient and asked to examine the pulse and state what he felt, would probably, on feeling a "water-hammer" pulse, state the fact at once and then mention the diagnosis. (He would not examine the heart unless asked to do so by the examiner, because it would be considered a breach of privilege.) Apparently the above answer is not required, but the "frequency, rhythm, character" of the pulse are to be reported on, and the examiner is noting how the radial is being felt and whether "rolled transversely" and examined longitudinally. *Ad rem, quomodo—ad rem.* I think method ranks after diagnosis when the latter is correctly stated. If marks are to be given according to methods employed the candidate should be clearly given to understand what the examiner criticises and what he wants—method or diagnosis. As this is not done I think many candidates are unsuccessful, not on account of their want of knowledge, but rather because the examiner fails to see that his question has been misunderstood and his requirements have not been made clear to the examinee. My desire in writing, Sirs, is not to make invidious comparisons between different methods of examining, but only to draw attention to some points that need to be remedied in fairness to candidates at the examinations in question.

I am, Sirs, yours faithfully,

March 12th, 1894. AD REM.

MEDICAL EDUCATION IN AMERICA.

To the Editors of THE LANCET.

SIRS,—In your issue of Jan. 6th, 1894, you credit Harvard and Yale with being the chief centres of medical learning in this country. Of course every man deems his *alma mater the* school, *par excellence*, nor indeed does that idea prevail alone on this side of the water, judging from the discussion which appeared in the recent numbers of THE LANCET. However, I think the University of Pennsylvania can justly claim the palm. Always a pioneer in movements for higher education, and the oldest medical school in the States, in 1846 she endeavoured, alone and unaided, to raise the standard of medicine in this country. For six years she struggled bravely, requiring three years of medical study, but being dependent on the fees of the students she was finally compelled to abandon the project, as not a single institution joined in the movement. Again in 1876 she agitated the question, this time with success, and 1877 witnessed the first class under the new *régime*. This present year she adopted the four year course. Yale can never expect to hold a prominent place as a medical centre. Their clinical facilities are very inferior. No degree of excellence in didactic teaching can ever replace bedside instruction. The University of Pennsylvania joins the Philadelphia Hospital, with its 1100 beds, its own hospital having about 150. Within half an hour's walk there are five other hospitals where clinical instruction is given. Professor Barton Cooke Hirst, who holds the chair of obstetrics, told me recently that after visiting the principal medical schools of the States he finds that the University of Pennsylvania is the only one making it *compulsory* for students to attend obstetrical cases before graduating. This alone places it on a plane above all others. Their medical museum is very large; it contains one of the finest collections of monstrosities in the world, and furnished the material for the work of Professors Hirst and Piersol on that subject. Yale's museum is disappointingly small; indeed, I was surprised to find such a poor showing when I visited it about a year ago. Permit me to ask you to give the matter some little consideration, in order that you may counsel your questioners to their best advantage, which, with all due respect, I do not think you have done, nor do I feel prejudiced in any way.

I am, Sirs, yours truly,

Philadelphia, Feb. 19th, 1894. W. E. R.

*** Our correspondent has not interpreted our note quite correctly, which was in answer to a letter asking particular questions. We did not allude to Harvard and Yale as the chief centres of medical learning in America to the disparagement of other universities. We mentioned them as the chief universities where, *inter alia*, a medical training could be obtained. Our correspondent will find in THE LANCET of Sept. 2nd, 1893, a recognition of the University of Pennsylvania as possessing the oldest and one of the finest and most progressive medical schools in the United States.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Angel Meadow District.

AT the last meeting of the city council a complaint was made that, though one of the most congested and insanitary in the city, this district, with a death-rate of 50·9, was neglected by the sanitary committee. As reported in the *Manchester Guardian*, the chairman said that a special effort to deal with it was made in 1892, "but to deal with it as they had dealt with Ancoats would cost a million of money. The committee called the attention of the then medical officer (Dr. Tatham) to the district in order that he might deal with batches of property as occasion arose. Unfortunately, through the small-pox epidemic and other matters, Dr. Tatham had his hands full and did nothing." The fact is that Dr. Tatham made an exhaustive inquiry into the condition of this locality, and as the result of that inquiry he condemned it in 1892 as "an unhealthy area." The estimated cost, however, of dealing with the whole area was so great that the matter was left over till Manchester had completed some of the costly undertakings then going on. It almost looks as if the chairman wished to relieve his own shoulders of responsibility by placing it on those of the medical officer of health.

Civic Life and Civic Duties.

A useful series of addresses illustrating the above heading has been given by members of the corporation in the new Islington Hall, Ancoats, on the work of the various departments of the corporation. The subject of the address on the 28th ult., by the deputy chairman of the Sanitary Committee, was Insanitary Dwellings in Manchester. Before 1844 the corporation had no power to interfere with the erection of buildings so long as the street frontage was observed; hence houses could be built without regard to light, ventilation, or other sanitary necessities. Many back-to-back houses have been erected since that date. In 1868 power was obtained to deal with the area of yard space, width of passages, and of streets. In 1890 new by-laws were adopted fixing the width of new streets to be at not less than 36 ft., no back passages could be less than 9 ft. wide, and backyard space could in no case be less than 150 square feet. So far back as 1876 a memorial on this subject was addressed to the corporation by the Manchester and Salford Sanitary Association, and in 1877 the Health Committee requested Mr. Leigh, the medical officer of health, to report on the condition of the Ancoats and other districts, the density of population, rates of mortality, &c. After a long investigation Mr. Leigh sent in his report, and recommended that the worst houses in the city, i.e., all such as were "declared by the officer of health to be unfit for human habitation" should be absolutely closed. With the aid of lantern views and plans the lecturer showed how insanitary property and back-to-back houses were dealt with. In 1885 there were 12,000 back-to-back houses in Manchester. Of these 3500 have been already dealt with. They are now being treated at the rate of about 800 a year. But this does not represent the whole improvement as many owners are voluntarily altering and improving their properties. The unhousing of the people who lived in the dwellings to be closed or demolished is a matter of great anxiety to the Corporation, but means are being taken to provide for them. Some time ago Dr. Tatham condemned two unhealthy areas in Ancoats, and on them two large blocks of labourers' dwellings are being erected which will very soon be ready for occupation. In various parts of the city the unhealthy dwellings are being gradually removed or improved, but the great cost of such undertakings compels a slower pace than would otherwise be desirable.

Registration of Midwives Bill.

A meeting of the Lancashire and Cheshire Branch of the

British Medical Association was held here on the 9th inst. to consider the proposed Bill. It was marked by some warmth of feeling, and sundry of the speeches afforded examples of vigorous rhetoric. A resolution adverse to the Bill was proposed by Dr. Rentoul, and was met by an elaborate amendment of many clauses, which was lost, and the original resolution was passed by more than four to one. The impression seemed general that the Bill would create a class of imperfectly educated and inefficiently trained female practitioners under the guise of registered midwives; that there was no guarantee that they would not undertake the sole charge of difficult and dangerous cases, perform operations, and attend to the diseases of women and children; and that under the proposed legislation it would be legally competent for them to do so. Some of the speakers disclaimed any objection to the Bill on the question of sex, but held that no licence to practise should be granted without the recipients going through the full curriculum and passing the tests required by the examining boards for legally qualified practitioners, whether men or women.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

White-lead Manufacture and Lead Poi oning.

IT is announced that two patents have been recently taken out by Mr. J. V. Walton of the Bolihope Lead Works, near Darlington, the object of which is to dispense with the direct handling from first to last of the lead by the Dutch process. This is effected by what the inventor calls "the tray system," which can be applied to the "stack" and the stove. It is in the stack, where the blue lead is converted into carbonate of lead, and in the stove, where the ground white lead is dried and where the dried white lead is packed, that the most poisonous effects are experienced. While I am on the subject of lead I may mention that an inquest was held on the body of a man who died from lead poisoning. He was a gasfittter, and his manager said he was a careless man about lead. He had seen him cut tobacco with a knife smeared with white lead before he put it into his mouth to chew.

Small-pox and Tramps in County Durham.

At the last meeting of the Durham Town Council's sanitary committee it was recommended that the attention of the County Council be drawn to the extensive epidemic of small-pox in the county, 411 cases having been reported during the last thirteen months. The disease had been carried about in many cases by tramps and it seemed necessary that some special measure should be adopted to control the movement of tramps during the prevalence of so deadly a disease. The recommendation was agreed to, and it was further agreed, in view of the prevalence of fever in the city, that the hospital on Gilesgate Moor should be made available for fever patients.

Death from Frostbite.

I suppose that it is not often that a death from frostbite is recorded in England, but such took place last week. The inquest showed that a man was taken to the Ripon Union Hospital, where he died from gangrene of the hands and feet following severe frostbites. He was sixty years of age, a ship labourer out of employment, and no doubt in a low state of vitality.

Overcrowded North-eastern Towns.

A statement taken from the census returns is made in our local papers that the overcrowding of Gateshead is 40·78 per cent., Newcastle 35·08 per cent., and Sunderland 32·85 per cent. This contrasts with Nottingham, where it is 3·62 per cent., Leicester 2·22 per cent., and Portsmouth 1·74 per cent.

The Supposed Case of Poisoning at Keswick.

In my late notes I mentioned a case in which the children of a family at Keswick were taken ill, one of whom died after eating part of an American apple. The inquest had been adjourned to allow Dr. Stevenson of Guy's Hospital to make an analysis of the viscera and a portion of the apple. Dr. Stevenson, although the symptoms were strongly suggestive, could find no trace of arsenic or other irritant poison. A mouse was also fed on the apple, and after two days it did not seem to suffer, but was still alive and healthy. The child had probably died from asphyxia caused by gastro-enteritis. A verdict was returned in accordance with this view.

Dr. Mears.

Dr. Mears, who is well remembered in Newcastle from his former connexion with the College of Medicine, and who left Newcastle a few years ago to travel in China, is now in this city, and receiving the congratulations of his former pupils and friends. Dr. Mears lived some time in Fuh-Kien province, and devoted himself to the training of native medical students. This, and his devotion to sanitary work, resulted in an attack of fever which has compelled him to return home. He hopes, however, to soon go out to China again. He gave a very interesting lecture on the Celestial Empire before the Tyneside Geographical Society the other evening.

Newcastle-on-Tyne, March 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh Medico-Chirurgical Society.

AT the meeting of this society on March 7th, Mr. Cotterill showed a case in which he had removed one half of the tongue; another in which he had partially removed the larynx; and a child on whom he had operated for intussusception of the colon. Dr. Byrom Bramwell showed the cases of Lupus and Ichthyosis which were being treated with thyroid extract, and which he had shown on two former occasions; both cases showed marked improvement, especially the one of ichthyosis. Dr. Clouston, assisted by Drs. Middlemass and W. F. Robertson, gave a demonstration of the Pathological Changes found in the Brain and its Membranes in Insanity. A large number of beautiful microscopic specimens and micro-photographs were shown, and the demonstration was further illustrated by means of a large number of diagrams. The changes in the dura mater and in the pia-arachnoid were first shown; then the various changes in the vessels, including fatty degeneration, deposit of pigment, miliary aneurysms, and minute apoplexies. The normal and the hypertrophied condition of the neuroglia were likewise exhibited. The morbid changes in nerve cells were very beautifully demonstrated, these including the various stages of pigmentary degeneration, of granular degeneration, and of developmental arrest. The morbid appearances found in special clinical types of mental disease were not taken up, the types taken being general paralysis of the insane, alcoholic dementia, epilepsy, senile insanity, chronic mania, delusional insanity, secondary dementia, and visceral melancholia. In all of them changes were demonstrated in brain tissue or in nerve ganglia.

Close of the Winter Session.

The winter session of the medical classes in Edinburgh will end on Thursday of next week, the 22nd inst.

March 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever in Paris.

IT was my pleasing duty to communicate quite recently to the readers of THE LANCET the gratifying intelligence that enteric fever had become a progressively diminishing factor in the pathological life of the Parisian. The utterance of that jubilant note was, alas, premature, for I regret to have to announce the existence in our midst of an epidemic which is disquieting in its proportions. The *Bulletin Hebdomadaire de Statisque Municipale* tells us that during the eighth week of the year typhoid fever, which had become so rare a disease of late, was on the increase, it having caused 13 deaths instead of 5, the number of fatal cases during the preceding week, and 11, the average. What was more serious was the number of admissions of typhoid fever patients into the hospitals—viz., 75 instead of 15 during the seventh week, and 8 or 10, the average of the preceding weeks. The tale told by the *Bulletin* for the ninth week is a still graver one. On the evening of March 3rd there were undergoing treatment in the various hospitals of Paris 234 male and 175 female typhoid fever patients, while 52 deaths in and out of hospital from the same cause had

occurred during the week. Of this number 10 were those of soldiers, and the fact that 20 out of the 42 remaining deaths occurred in hospital proves that the poorer section of the population were greater sufferers than usual, for generally only a quarter of the total deaths from typhoid fever occur in hospital. It is noteworthy that the sixteenth (Passy) and the seventeenth (Monceau-Batignolles) arrondissements remained free from the disease. At a meeting held on the 6th at the Académie de Médecine Dr. Bucquoy stated that his wards at the Hôtel Dieu had recently received 12 cases of typhoid fever, whereas for months previously he had had no cases to treat. Dr. Lancereaux, of the same hospital, corroborated this statement and said that, while only 3 cases had been admitted into that establishment between Jan. 1st and Feb. 12th, no fewer than 62 had entered between the last-mentioned date and March 1st. He pointed out that this mode of onset was the rule in typhoid epidemics. In 1875 there were in the Hôpital St. Antoine from Jan. 1st to July 1st only 12 cases, with no death. During July the deaths became more frequent, and 150 cases were admitted during the rest of the year. M. Lereboullet remarked on the rarity of a like epidemic at the end of winter. Some further discussion terminated in the adoption of the following resolution: "L'Académie ..... invite la population à faire bouillir son eau d'alimentation." Thereby the Academy expressed its opinion that some accidental contamination of the drinking-water supplied to the inhabitants of the city was at the root of the mischief. But M. Humblot, the Directeur des Eaux, informed the Municipal Council on the 9th inst. that no such contamination had taken place and that M. Miguel had discovered no pathogenic microbe in the water supplied. The latter statement was, however, controverted by M. Levraud, who stated to his fellow councillors that the water drank in certain municipal schools certainly contained microbes. Another councillor demanded the evacuation of barracks built in between private houses, and in which the water-supply was generally deficient. Another city father declaimed against the consumption of mineral waters, declaring that most of them were manufactured out of Seine water. If we may believe the *Gaulois*, M. Mourot, M. Humblot's lieutenant, incriminates not the water drank but the tons of *confetti* scattered in profusion on the boulevards on Shrove Tuesday and Mardi Gras. We may, however, say that the true cause of the epidemic is at present unknown. Meanwhile, I have reason for believing that the number of persons under treatment for typhoid fever in the civil and military hospitals on the 7th inst. was 264 and 162 respectively. This is assuredly a serious state of things, and it behoves the authorities to search for the cause at the earliest possible moment.

The Human Hand compared with that of the Monkey.

M. Regnault[1] tells us that the fingers of the human hand are normally curved, the index and the middle fingers being concave towards the ring finger, and the ring and the little fingers presenting a like concavity looking towards the middle finger. These curves are constant and are found even in the fœtus of eight months. They are thus quite independent of accidental causes, such as particular forms of manual labour, and they have been reproduced by all great sculptors. On the other hand, all monkeys, even the anthropomorphic varieties, have quite straight fingers. The reason for this difference lies in the faculty possessed by man of opposing the thumb to the fingers; this movement of mutual opposition of the thumb and fingers produces naturally the outward concavity of the little and ring fingers, and the inward concavity of the middle and index fingers. Even the anthropoid monkey possesses this faculty of opposition only in a rudimentary degree. He seizes an object either between the palm of the hand and the four last fingers flexed, like a lead-poisoned paralytic, or, if the animal wishes for more precision, between the index finger and the pulp of the thumb. This mechanism has been verified by M. Regnault in three ourang-outangs which he examined carefully. Up to about the age of two years children employ the same mechanism as monkeys. Be it further noted that in the monkey the palm of the hand is longer and thinner, the thumb is smaller, and the space between the thumb and the index finger is narrower than in man.

The Heating of Cabs.

I have already directed attention to the dangers of current methods of heating cabs, and I cited, not long ago, a fatal accident that happened from this cause. The Academy of Medicine appointed a committee to examine the question, and that body has now officially recommended that the employment of any method of cab-heating that entails the emission of deleterious products of combustion into the interior of the vehicle be forbidden. This recommendation will, let it be hoped, be acted upon, for its beneficial effects on the health of the travelling public could not leave room for doubt. It is certain that many Parisians who make daily use of cabs in winter are rendered chronically ill by the inhalation of carbonic oxide gas.

Death of Dr. Auguste Ollivier.

Frequenters of the wards of the Hôpital des Enfants Malades in the Rue de Sèvres will henceforth miss the familiar figure of Dr. Ollivier, who has just died at the age of sixty-one. Born in a very humble rank of life, he became a Member of the Academy of Medicine, Member of the Sanitary Council of the Seine, Professeur-agrégé of the Paris Faculty, Physician of the Children's Hospital, and Knight of the Legion of Honour. His union with the daughter of his whilom master, Grisolle, constituted a link between the present and the past race of physicians. His labours in the field of sanitation were great, and they have been collected in several volumes entitled "Études d'Hygiène Publique." He was a fairly voluminous writer on medical subjects, one of his works, written in collaboration with his fellow writer, Ranvier, now Professor in the Collège de France, being on Pemphigus of the New-born. He also published a translation of Dr. Lionel Beale's work on the Urine. His funeral was attended by several professors of the faculty, his colleagues at the Academy, as also by nearly all his old pupils. The remains were finally removed to Saint-Calais (Sarthe), his native town to which he had made many liberal gifts.

Paris, March 13th.

[1] Société de Biologie, March 3rd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meetings of Medical Societies in Melbourne.

IT so happens that the two leading medical societies in Melbourne hold their annual meetings in the same month, and the addresses of the retiring presidents are apt to cover more or less the same ground. Dr. Gresswell, the ex-president of the Victorian branch of the British Medical Association, was the first in the field and gave a very thoughtful and able address. He took as his main theme some of the ways in which the beneficent influence of the profession may be exercised for the public good, and the value attaching to the formulation of professional opinion on current questions. The food and water-supply of the colony particularly were dealt with in very forcible language. The gross neglect permitted in connexion with the sanitary circumstances of dairies first received attention, and Dr. Gresswell asserted that, apart from the risks incurred by drinking milk contaminated with filth, and possibly with such constitutional infections of the cow as diphtheria and scarlet fever, there remain those from the ingestion of milk of cows affected with tubercle, and he said that "there can be no hesitation in stating that tubercle-infected milk is being daily and largely drunk in Melbourne." The need for skilled veterinary inspection of dairy cattle was insisted on, and under the present conditions the necessity for heating all milk to a temperature of from 158° to 180° F. before use was also mentioned. Turning next to the meat-supply, the want of skilled inspection and the absence of some assurance that the provision markets are free from infected meat were referred to, an assurance which cannot at present be given. Indeed, Dr. Gresswell thought it probable that tuberculous meat was largely consumed. The contamination of the metropolitan water-supply (to which reference has been made in a former communication) was severely animadverted on, and householders were strongly recommended to boil all their drinking water. In connexion with these matters the profession, it was contended, had a twofold task: on the one hand, to urge on individuals the necessity for protecting themselves against disease by boiling milk and water and thoroughly cooking meat; and, on the other hand, to urge upon the authorities the necessity for taking more general measures for providing that water, milk, and meat shall be free from the risks alluded to. The lack of means for isolating and treating infectious diseases then received attention. Excepting the case of small-pox the municipal councils have

made no provision for the treatment of the infectious sick. For his remarks about these matters Dr. Gresswell has been somewhat taken to task by some of the lay newspapers, who affect to regard him as an alarmist and faddist, but those who know anything of sanitary conditions in the colony will thoroughly endorse his statements. It might, however, more naturally appear anomalous to some that Dr. Gresswell, as President of the Victorian Branch of the British Medical Association, should indulge in such adverse criticism of sanitary administration in the colony, seeing that as chief medical inspector to, and member of, the Board of Public Health he is practically the head of that very administration, and curiously enough the Health Act specially empowers the board to make regulations for the inspection and control of dairies and for destroying and removing diseased cattle. Dr. Gresswell, however, in his address, maintains that, according to the views of the Legislature, the sanitary administration of the colony is essentially local, and if these views are to be carried out, it is not so much by orders that reform is to be obtained, as by education.

Dr. Charles Ryan's address as retiring president of the Medical Society of Victoria, was more technical, consisting chiefly of a critical *résumé* of the medical work of the year, and dealing with such subjects as the use of organic extracts in therapeutics, the parasitic nature of cancer, the use of antitoxines, symphysiotomy &c. Reference was also made to local subjects, and he agreed with Dr. Gresswell on the question of the metropolitan water-supply and the need for providing hospitals for infectious diseases. A well-deserved compliment was paid to the progress made at the Melbourne Medical School, especially in the laboratories, library, and museum, and the facilities for post-graduate work. Grateful acknowledgment was made of the decision of the Royal Colleges of Physicians and Surgeons of London to admit colonial graduates at once to the final examinations of the Conjoint Board, and the Colonial Universities were urged to recognise the entrance examinations of the London Colleges and so remove the only bar to complete reciprocity in everything except the final examinations. The need for electoral reform at those colonial hospitals, like the Melbourne Hospital, where the staff is elected at short intervals by a popular vote of the subscribers, was discussed, and Dr. Ryan strongly insisted that at least the trafficking in votes (which, as previously pointed out, is such a marked scandal) should be prevented.

Election of Office Bearers.

At the Medical Society of Victoria a number of candidates were nominated as office bearers, and the following were elected: President, Dr. Gresswell (who thus steps from the chair of the one society to that of its rival); vice-presidents, Dr. Rothwell Adam and Mr. F. D. Bird; hon. treasurer, Dr. Brett; hon. librarian, Mr. J. H. Webb; hon. secretary, Dr. A. J. Wood; committee, Dr. Astles, Dr. Balls-Headley, Dr. J. W. Barrett, Dr. Gardner, Dr. Grant, Dr. Hinchcliffe, Dr. Maudsley, Mr. Moore, Dr. J. P. Ryan, and Mr. G. A. Syme. A cordial vote of thanks was accorded to Dr Moon for his past services as hon. secretary. At the British Medical Association no election of council was necessary, there being just sufficient nominations. Dr. Felix Meyer was elected president, and Dr. W. Snowball vice-president. Mr. Kenny and Mr. Mullen were re-elected hon. treasurer and secretary respectively.

Actions for Libel brought by Medical Men.

Dr. Francis Everard Hare, medical superintendent of the Charters Towers Hospital, Queensland, recently brought an action for libel against the *Eagle* newspaper. The libels consisted in charges of neglect, harsh treatment, and of unnecessarily using the knife, and concluded as follows: "When Dr. Hare desires to perform an operation do not submit to it until the advice of some other independent medical man has been taken." The defendants pleaded justification, that the statements were made in good faith for the public good, and were fair comments on a public officer in the discharge of public duties. A great deal of evidence was given on both sides by patients, attendants, and medical men, and the jury gave a verdict for the plaintiff.

BEQUESTS.—The late Mr. Thomas Bowes has bequeathed a sum of £150 to each of the following hospitals:—Cork North Infirmary, Cork South Infirmary, Cork Fever Hospital, Cork County and City Hospital, and the Eye, Ear and Throat Hospital, Cork.

Obituary.

BARNARD WIGHT HOLT, F.R.C.S. ENG.

MR. BARNARD WIGHT HOLT, consulting surgeon to the Westminster Hospital, as we have already announced, died at his residence in Savile-row on the 27th ult. Mr. Holt was a Westminster man, both his father and grandfather having been medical practitioners in Westminster. He was born on Nov. 27th, 1816 and in due time became a pupil of the late Mr. Anthony White, one of the surgeons of Westminster Hospital, and on the resignation of that gentleman he was elected assistant surgeon to the hospital in December, 1846. He was made full surgeon in 1850, which appointment he held for twenty-three years, becoming consulting surgeon in 1873. Mr. Holt was best known as a surgeon by his practical work with regard to the treatment of stricture, and was the originator of the immediate dilatation method. This treatment and the instrument known as Holt's "dilator" were introduced to the notice of the profession in the columns of THE LANCET in 1852, exactly one year later than the method by "guide" and "tubes" suggested and carried out by Mr. Thomas Wakley. For many years these two methods, and Mr. Teevan's modification of Mr. Wakley's, held the field as the recognised treatment of stricture; and although of late years internal urethrotomy has come to be the routine treatment in the majority of cases, many conservative surgeons still give lengthened trial to milder methods first. We may refer our readers to THE LANCET of March 22nd, 1851, and Feb. 7th, 1852, for detailed description of the two methods. For many years Mr. Holt enjoyed a large and lucrative surgical practice. He was a man of much energy and force of character, and was a good general surgeon as well as a first-rate operator. Beyond the realms of surgery he was known as an ardent sportsman and a capital judge of horses. Up to two years ago, when he had an attack of influenza, no man of his age rode better or straighter to hounds. He held the appointment of medical officer of health of Westminster and also the post of surgeon to the Railway Passengers Assurance Company at the time of his death, and was in the full practice of his profession until seized with his fatal illness. As before mentioned, he was laid up with a severe attack of influenza two years ago. This illness suddenly changed him, so to speak, from a young man into an old one; but he was a man of indomitable pluck and resolution, and although unable to ride during the last two years in consequence of giddiness and a weak heart he stuck to his work and performed his last operation about a fortnight before his death. Mr. Holt was highly thought of as an expert in railway injuries, and was often called on to give evidence in the Law Courts. He was distinguished by his uprightness and candour, and always had the courage to express his opinions. He was highly esteemed by all his friends, and was a man whose advice and judgment could be relied on. The funeral took place at Kensal-green Cemetery on Saturday, March 3rd.

ROBERT MACPHERSON, M.D. GLASG.

ON the 1st inst. Dr. Robert Macpherson, one of the most highly respected of the younger Glasgow medical practitioners, passed to his rest at the age of thirty-nine years. In spite of his delicate constitution he was keenly active in the work of his profession and had acquired an extensive practice. Entire devotion to duty marked his life and character. Notwithstanding the exhausting tax which it made upon his health and strength, Dr. Macpherson was especially successful in the practice of midwifery. In the line of this department of medicine he wrote his graduation thesis four years ago, entitled "Puerperal Fever: an Essay in Practical Medicine," for which he was highly complimented by his late lamented professor, Dr. Leishman, professor and student, it is sad to note, being called away within the short space of a few days. Dr. Macpherson was a close and constant student of medicine and was well versed in the science and literature of his profession. He entered into his work heart and soul and took a most sympathetic interest in his patients; but his interest was not limited by what he termed "the everyday work of patching up decrepit humanity." The range of subjects which engaged his ever

active mind was very wide, including politics, philosophy, literature, history, art, music and the drama, and in each and all he held clearly defined views. He was a great lover of sport, although by his weak health he was debarred from indulging in it. He took the keenest interest in games—cricket, golf, and football. It was a great delight to him to spend some days yachting in the Firth of Clyde during the season. But Dr. Macpherson was, above all, devoted to the study of English literature, especially fiction and poetry. He had read everything, was quite familiar with all the characters figuring in the works of novelists, and was always ready with apt quotations from the poets. His wide culture and accurate knowledge marked his general bearing and conversation. He contributed more frequently to literary magazines and journals than to the medical press. His most recent articles on the popular aspects of small-pox and cholera appeared only a few months ago in a Glasgow newspaper. He wrote occasional verses on a variety of subjects. Readers of THE LANCET may remember the sympathetic and graceful tribute which he wrote on the late Dr. Wakley. About the same time he also contributed an appropriate sonnet in admiration of the life and work of that most worthy editor and philanthropist. Laid aside from active practice for some months, Dr. Macpherson, while hoping to regain sufficient strength to enable him to remove his residence to a favourite health resort on the shore of the Clyde, seemed to have felt the end approaching, for so he wrote in the last of the Christmas poems he was in the habit of sending annually to his friends :—

"The sky is dark; the cries are strange and loud,
But we, made strong, strive on amid the fight.
The night is now far spent; beyond the cloud
The pallid dawn foretells the coming light."

JAMES WALKER, M.B., C.M. ABERD.

A LARGE number of the citizens of Aberdeen have been thrown into mourning by the loss by death of Dr. James Walker, which took place on the 3rd inst. at his residence, Balmoral-terrace. The sad event was the termination of a protracted illness induced by the receipt of a dissection wound incurred whilst engaged in prosecuting his pathological investigations. All who had opportunities of following the short but promising career of the young physician are able to bear witness to the zeal and ability with which he embarked upon it, and the brilliant mental qualities he displayed in the pursuit of the knowledge necessary to fit him for the work to which he had devoted himself. His skill and accomplishments as a histologist were acknowledged by all who were brought into scientific contact with him. Dr. Walker's course in the university of the granite city was a highly distinguished one, and the ease with which he secured the coveted degrees of his *alma mater* will not readily be forgotten by his fellow students. The lamentable event above referred to, however, threw a withering blight upon his fair professional prospects, and by rendering him a permanent and hopeless invalid cast a shade upon what might, and doubtless would have been, a highly successful professional career.

JOHN KELLOCK BARTON, M.D. DUB., F.R.C.S. IREL.

WE record with regret the death of Mr. J. K. Barton, of 6, Merrion-square, Dublin, at the age of sixty-four years. About eighteen months ago his health gave way, and he went to the south of France for some months, when he returned to Dublin and resumed practice. For some months past, however, he had been in Mentone, where he died at the close of the past week. Mr. Barton held a leading position for years among the surgical profession in Dublin, and was highly esteemed professionally. He enjoyed a large practice, and inherited a considerable fortune from his father, the late Mr. John Barton, an ex-governor of the Bank of Ireland. He was born in 1829 at Stone House, near Dublin, and pursued his professional studies in the Carmichael School, Richmond Hospital, and University of Dublin. In the latter institution he graduated A.B. in 1854, taking a first place, M.B. in 1854, and M.D. in 1861. He obtained in 1852 the gold medal of the Pathological Society for the best essay of the session, and in 1858 was elected surgeon to the Adelaide Hospital, which he retained to his death, being the senior surgeon for many years. In 1861 he was appointed University Anatomist in the School of Physic, Trinity College, but relinquished it in 1864, when he joined the board of the Ledwich School of Medicine and filled the chair of Surgery. Several years afterwards he left the Ledwich School and transferred his services to the Carmichael College, where he was appointed senior lecturer on surgery, and about four or five years since he was one of the promoters of the amalgamated scheme, the Ledwich and Carmichael Schools joining the College of Surgeons. Mr. Barton was also consulting surgeon to the Cripples' Home, Bray, and formerly surgeon to the Convalescent Home, Stillorgan, and was a Fellow of the Royal Academy of Medicine. He passed the Fellowship examination of the Royal College of Surgeons in 1859, and some years afterwards was elected a Member of Council of the College and ultimately President, holding office for the year 1882–83. The deceased was a man of strong religious convictions, he was a trustee of St. Matthias' Church, and he subscribed largely to religious and charitable institutions. His contributions to surgery were numerous and valuable, and in 1868 he published a work on the Pathology and Treatment of Syphilis. Mr. Barton married a daughter of the late Professor Apjohn, Professor of Chemistry in the University of Dublin, who predeceased him, and leaves three daughters and one son. His remains will be interred at Mentone.

Medical News.

THE Duchess of York has presented the Royal Cambridge Asylum with a bath chair, which has been manufactured by the inventor, Mr. John Ward, of Tottenham-court-road, London. The back of the chair is so arranged that by an ingenious mechanism its position may be altered to various angles in order that the invalid may be enabled to partially recline or sit upright. The chair has also an adjustable leg-rest, so that invalids with spinal complaints can lie quite flat. The chair is beautifully finished, great care having been given to its construction.

A NEW INFIRMARY FOR PAUPER IMBECILES.—The consent of the Local Government Board has been obtained to the proposal of the managers of the Metropolitan Asylums Board to purchase certain land and premises—known as the Tooting Lodge Estate—as a site for the erection of an infirmary. The above consent has, however, been accompanied by the proviso that the building is to be used only for the reception of pauper imbeciles, and not for any other class of inmates, and not even for them when suffering from infectious disease. Moreover, the patients for whom the new building is intended are to be such as those who, having been duly certified under the Lunacy Act, 1890, need treatment or management of a kind such as cannot be given in an ordinary infirmary for sick and infirm people.

DISEASED MEAT.—On Monday last a man hailing from Haxey, Lincolnshire, was summoned before the magistrate at Guildhall for sending to the Central Meat Market the carcasses of three pigs which the witnesses described as totally unfit for human food. If the meat had been good the carcases would have weighed something like 150 lb. whereas, according to the evidence adduced, when seized they weighed but 68 lb. Dr. Sedgwick Saunders said that the carcasses were evidently those of animals which had died from disease, and the meat was therefore unfit to be eaten. He had never seen meat in a worse condition. This view was shared by the presiding magistrate, who emphasised his sense of the gravity of the offence by sending the defendant to prison for two months.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle.*—Dr. Ernst Bumm, of Würzburg has accepted the appointments of Professor of Midwifery and Director of the Obstetric clinic.—*Bonn.*—Dr. Krukenberg, *privat docent* in Medicine, has been granted the title of Professor. Dr. Kruse, Assistant in the newly established Hygiene Institute, has been recognised as *privat docent* in Hygiene.—*Heidelberg.*—Dr. Bernhard von Beck has been recognised as *privat docent* in Medicine and Dr. Vulpius as *privat docent* in Orthopædic Surgery.—*Göttingen.*—Dr. Disse, prosector in the Anatomical Institute, has been appointed Extraordinary Professor of Anatomy.—*Rio de Janeiro.*—Dr. W. Havelburg has been appointed Physician to and Director of the Research Laboratory of the Leprosy Hospital.

LITERARY INTELLIGENCE.—The first two numbers of Vol. XVI. of the *Journal of Physiology* are announced for the middle of this month, and with this volume the publication of the journal will be undertaken by Messrs. C. J. Clay and Sons, of the Cambridge University Press.

PRESENTATIONS.—Mr. W. S. Wade, L.R.C.P. Edin., L.F.P.S. Glasg., has just been the recipient, from the Wakefield City Police Force, of a walnut ball clock, in appreciation of his professional services, covering a period of more than thirty years, as the police surgeon.—Mr. H. L. Hoops of Eccles has been presented with a handsome silver teapot with his crest engraved upon one side and a suitable inscription on the other, by the members of Baxendale and Co.'s ambulance class in Manchester.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following practitioners are announced:—Dr. Zenthoefer, Assistant in the Charlottenburg Institute for Infectious Diseases, at the age of thirty, who had done good bacteriological work in connexion with the recent cholera epidemic.—Dr. Schupmann of Geseke, Westphalia, at the age of ninety-three, probably the oldest medical man in Germany. During the first fifty years he was in practice it is stated that he never left his district for a single night, and he did not finally retire from the charge of the local infirmaries until he was past ninety years of age.

THE PHYSICAL CONDITION OF SCHOOL CHILDREN.—Sir Douglas Galton, in a letter to *The Times* of March 14th, draws attention to the investigations being carried on by a committee (of which he is chairman) at the Parkes Museum, Margaret St., W., into the physical and mental condition of school children. Of the 50,000 children individually examined notes were taken of about one-sixth of the number to form a basis for exact information concerning child population. It appears that about 7 per cent. are mentally dull and 16 per 1000 require special care and training. It is suggested that the result of this inquiry, which has been carried on for nearly three years, will point to the means of prevention of child feebleness, as well as to methods of evolving the better mental faculties and growth of the average child. The committee are dependent upon the public for the necessary expenses for the carrying on of the work.

THE LONDON HOSPITAL.—At the quarterly court of governors held on the 7th inst. the report for the past year was submitted by the secretary for consideration. The total income of the charity for the twelvemonth was stated to be £90,800, of which £34,000 was derived from legacies; the expenditure, on the other hand, amounted to £71,794. The number of accidents treated had been 10,321, of which 1787 were of sufficient severity to warrant the sufferers being admitted as in-patients. A grave feature of the report was the large increment in the number of out-patients, which was represented by the figures 27,625, as compared with 23,471 for the former year. This excess was made the subject of comment by the chairman, Mr. J. H. Buxton, who, in proposing the adoption of the report, remarked that there was a growing feeling on the part of the conductors of the hospital that the work had become so heavy as to suggest the need of some restriction being applied to the scope of the out-patient department, which, indeed, he said, was not the main function of the charity. The report was then adopted.

NATIONAL PROVIDENT INSTITUTION.—At the fifty-eighth annual meeting of this institution, held at the City Terminus Hotel a few days ago, some remarks made by the chairman in moving the adoption of the report may be worthy of a passing notice. He said they had lost by death during the year 428 members as against 431 in the previous twelvemonth, and the amount paid in claims was £335,800 as against £333,500, thus showing an approximate uniformity in respect of these items in the two years which is somewhat remarkable. One or two other points were brought out in the report—e.g., the difference observable between the expectant rate of deaths and that which actually occurred; this was shown by the figures 692 for the former, and 552 for the latter, or 80 per cent. Then, again, the number of policies which became claims on lives under fifty years of age was 85, whereas the expected rate was, according to the mortality table, not less than 151. Reference was also made to the mistaken notion that providing against the risk of premature death must turn out a bad investment to those who live to a good old age, but here the results of compound interest were overlooked.

CORONERSHIP OF NORTH-EAST LONDON.—In addition to the names given in the annotation relating to the office of Coroner for the North-Eastern District we are informed at the time of going to press that Mr. William Wynn Westcott, M.B. Lond., D.P.H., who has for eleven years filled the office of Deputy Coroner for the Central and Western Divisions of the County of London, is also a candidate.

FEMALE WORKSHOP INSPECTORS.—During the ten weeks that the female inspectors, recently appointed by the Vestry of Kensington, have been at work, in all 432 inspections have been made. Of these inspections 244 were those of laundries and 133 those of dressmakers' workrooms. Sixty-five shops were found in a dirty condition, 15 were over-crowded, and two insufficiently ventilated. Twenty-three laundries were found to have defective sanitary arrangements. The number of notices issued against laundries amounts to 54, and 20 have been issued against dressmakers.

FOOTBALL CASUALTIES.—While playing a match at Bridgtown, on the 24th ult., a player fractured his leg, and was removed to the Walsall Cottage Hospital.—On the 3rd inst., at Tuebrook, in a match between the Hartley Recreation and Tuebrook Victoria Clubs, a player sustained a compound fracture of his leg below the knee, and was taken to the Royal Infirmary, Liverpool.—A member of the Kirkstall team died on the 11th inst. from injuries received in a match between Bramley and Kirkstall, at Bramley, on the previous Monday.—On Saturday last, in a match at Bradford, a Bradford three-quarters fractured his right leg, and was removed to the infirmary.—During a match on the 12th inst. at Sheffield, between the Woolwich Arsenal and Sheffield United teams, the Arsenal centre forward fractured his left arm.

CHARGE AGAINST A MEDICAL MAN.—On Wednesday Mr. John Clarke, M.B., of Plumstead-common-road, was summoned by Mr. Tom Cutter, superintendent registrar of the Woolwich Union district, for contravening the provisions of the Births and Deaths Registration Act, 1874, by wilfully giving a false certificate of "stillbirth" in the case of an infant named May Dalton on or about Feb. 13th. Mr. Greenep defended. Mr. Cutter said that he had been instructed by the Registrar-General to take these proceedings. The defendant, in the first place, had given a certificate that the child had been born alive, then he had given a second certificate that the child was stillborn, and afterwards a third certificate to the effect that the child was prematurely born and had lived seven hours. He (Mr. Cutter) did not wish to impute any improper motive on the part of the defendant, who, he supposed, had acted out of kindness to the parents; but he wished to point out the danger of the practice, as the certificates could have been put to improper use if they fell into questionable hands. Mr. W. T. Vincent, registrar of births and deaths for East Plumstead, produced a certificate which he said he had received from Mr. Messent, undertaker (to whom it had been sent in mistake) stating that the child was born alive. He also produced two other certificates, one of which he got at the churchyard, where the body was to have been interred, stating that the child was stillborn. The third was the regular certificate sent to registrars, this certificate stating that the child was born prematurely and had lived seven hours. The latter was sent after witness had seen defendant with reference to the other two certificates. He told witness he did not see any harm in what he had done. One certificate, he said, was given to the father so that he might receive a payment from the Hearts of Oak Benefit Society. Defendant also said he did not know much about the law of registration, and he had acted in ignorance. Witness supposed defendant had given the stillborn certificate so that it could be interred as a stillborn child without funeral. Mr. Greenep admitted that Mr. Clarke had technically evaded the law by giving the certificate as stillborn, seeing that it was impossible for the child to live, and had not been instigated by any improper motive. He hoped that the magistrate would find that there were extenuating circumstances in this case which called for leniency, for, as his worship was aware, the consequences would not end here if there was a conviction. Mr. Kennedy said that he considered there were extenuating circumstances, but, as there was no doubt an irregularity had been committed by the defendant, he would merely inflict the nominal penalty of 20*s.* and 2*s.* costs.

THE GREAT NORTHERN CENTRAL HOSPITAL, HOLLOWAY.—In aid of the building fund of this charity, the addition to which has just been completed, the Duchess of Teck has, we are informed, undertaken to open a bazaar, which is to be held on April 18th and the two following days.

ST. JOHN AMBULANCE ASSOCIATION.—A special course of six lectures is being delivered under the auspices of the above association by Mr. N. Hay Forbes, L.R.C.P., M.R.C.S.Eng., to the men of the South Eastern and London Brighton and South Coast Railways, at Tunbridge Wells, on First Aid. There is an average attendance of fifty men, who are receiving special instruction in the transport of invalids and wounded by rail.

THE JOHN REID PRIZE, GLASGOW.—This prize, which is awarded for the best original research conducted in one of the hospitals or scientific research laboratories in Glasgow bearing on any department of medical science, has this year been divided between two of the competitors. To Mr. John Wamman Findlay, of Dennistoun, has been awarded the sum of £20 for his thesis entitled "A Research into the Histological Structure of the Olfactory Organ;" and to Mr. Thomas Alfred Beadle, a student of St. Mungo's College Medical School, has been awarded £15 for his thesis entitled "The So-called Parasitic Protozoa of Cancer."

THE EIGHTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.—The assembling of this congress will take place at Budapest from the 1st to the 9th of September next. The opening ceremony will be performed by His Imperial Highness Archduke Charles Louis in the building and garden of the National Museum. Up to the present 362 hygienists and 78 demographists have signified their intention to read papers at the congress. A new section has been added—namely, the "General Samaritan Affairs," the Samaritan Congress having joined the International Congress. The medical officers of the German railways and the Cremation Societies will also hold their meetings at Budapest in connexion with the congress. The arrangements for the excursions to be made after the closing of the congress have been sent out. Excursions to the Tatra range, Agram, Fiume, as well as to Bosnia and Herzegovina have been added to the programme, besides the voyage to Constantinople and Belgrade already arranged.

PROPOSED HOSPITAL AT HOUNSLOW HEATH.—LOCAL GOVERNMENT BOARD INQUIRY.—A Local Government Board inquiry was opened this morning at the Town Hall, Hounslow, by Dr Theodore Thomson into an application by the Corporation of Richmond and the Local Board of Heston and Isleworth for leave to borrow £3000 for the purpose of acquiring a site for an isolation hospital at Hounslow Heath. The proposed site is situated partly in Isleworth and partly in Twickenham, and is surrounded on the north by Hounslow Heath, on the south by the powder mills of Messrs. Curtis and Harvey, on the east by Hounslow Cemetery, and on the west by the River Creme. The site comprises nearly eighteen acres, and although the plans for the hospital have not been drawn, it has been arranged that patients suffering from small-pox shall not be admitted into it. Acommodation for these patients will be provided upon a site already acquired by the Local Board of Heston and Isleworth, about two miles north of the proposed hospital.

THE INTERNATIONAL MEDICAL CONGRESS.—His Excellency Dr. Guido Baccelli, Minister of Public Instruction and President of the Congress, has issued the following programme of the work to be got through in plenary sittings and in the nineteen sections. On March 28th (a day before that originally fixed) will take place the solemn inauguration of the Congress. On the 29th, in the morning, the "business inauguration" comes off, and in the afternoon the election of the various office-bearers. On the 30th, from 8 A.M. till 3 P.M., the sections will begin work, and at 4 P.M. there will be a general sitting, at which a "conferenza" or discussion of a paper, open to all members, will take place. On the 31st, from 8 A.M. to 3 P.M. the sections will again transact their business, and at 4 P.M. there will be a second general sitting, as on the previous day. On April 1st (Sunday) the Congress will give itself a holiday, which will take the form of an excursion to the Alban Hills (Frascati, Castel Gandolfo, the Alban Lake, Albano, Lake Nemi, Ariccia, Genzano, and Cività Lavinia). On the 2nd, from 8 A.M. to 3 P.M., the usual business of the sections takes place, followed at 4 P.M. by the general sitting—an arrangement which will continue till the 4th, on the evening of which day the sections will meet at a grand banquet. On the 5th there will be a morning sitting, at which the Congress will wind up its labours with the official announcement of the place of meeting for its successor, the twelfth of the series.

Parliamentary Intelligence.

The Factory and Workshops Acts.

IN the Conference-room of the House of Commons, on Tuesday, March 13th, a deputation consisting of the principal representatives of the Staffordshire, Derbyshire, and Yorkshire pottery manufacturers waited upon Mr. Asquith with reference to some special rules under the Factory and Workshops Acts for the protection of the health of the workmen. In his reply the Home Secretary explained that the function of the Departmental Committee was merely to inform the Secretary of State whether or not there was a case for the adoption of special rules for the particular trade. In the present instance there was a case for the adoption of the special rules. Whilst not denying that there were many well managed factories, Mr. Asquith said there were many employers who, from want of will or want of power, did not take the precautions they ought to take in the interests of the health of their workpeople. Statistics of disease in the Potteries showed the existence of a large amount of preventable disease of the most serious kind, and anyone who had charge of the administration of the powers given under the Factory Acts would be guilty of a gross neglect of duty if he did not do everything in his power to put an end to such a state of things. The deputation considered the special rules too stringent and not sufficiently elastic, and the men that they were grossly deficient in stringency. He suggested that another conference should be held with a view to a satisfactory settlement between employers and employed.

HOUSE OF COMMONS.

MONDAY, MARCH 12TH.

Notices of Bills.

On the assembling of the House after the prorogation the Royal Speech having been read from the chair, notices were given of the introduction of the following new Bills bearing upon subjects in connexion with the hygienic welfare of the people. Sir G. Trevelyan: A Bill to establish a Local Government Board for Scotland, to make further provision for local government in Scotland, and for other purposes.—Mr. Mundella: A Bill to make better provision for the settlement of labour disputes.—The Chancellor of the Exchequer: A Bill to establish local control over the traffic in liquor.—Mr. Asquith: A Bill to amend and extend the law relating to factories and workshops.—Mr. Mundella: A Bill to consolidate the enactments relating to merchant shipping.—The Lord Advocate: A Bill to make provision for public inquiry in regard to fatal accidents occurring in industrial employments and occupations in Scotland.—Mr. Burt: A Bill to provide for inquiring into accidents in certain employments in England.—Mr. Burns: A Bill to provide for an eight hours' day.—Also amongst the notices of motion was one by Mr. Burnie, on April 3rd, to call attention to the desirability of constructing harbours of refuge.

TUESDAY, MARCH 13TH.

Imprisonment of Children.

In reply to a question by Mr. Pickersgill on this subject, Mr. Asquith referred to the directions issued by the Secretary of State in 1880, by which it was rendered imperative that a report should be made to the Home Office of every case of committal to prison of children under fourteen years of age. In pursuance of this requirement, said the right hon gentleman, the governor of Holloway Prison had reported that three boys, of the respective ages of seven, twelve, and thirteen years, had been remanded to his custody upon a charge of stealing lead-piping, by the magistrates of the Bromley Petty Sessional Division. The medical officer had taken two of the children into the infirmary. A representation had been made to the magistrates urging them to consider the question of the immediate release of these children on bail, and pointing out that a child of seven was quite unfit for detention in prison; with this representation the magistrates promptly complied.—In answer to Mr. Picton, Mr. Asquith said he would endeavour to ensure that magistrates acted up to the spirit of the circular issued from the Home Office in 1880.

Accidents on Railway Platforms.

Colonel Lockwood, referring to the fatal accidents frequently occurring on railway platforms, and instancing that which lately took place in the case of Mr. Theobald, asked the President of the Board of Trade if he was prepared to require railway companies to fit their station platforms to the carriage steps.—Mr. Mundella said that by the Board of Trade Regulations "as little space as possible is to be left between the edges of the platforms and those of the foot-boards of the carriages." These regulations, however, applied for the most part to new stations only, though in the case of old stations the companies were found to be amenable in some cases to the persuasive powers of the Board.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

AINSWORTH, HUGH. M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Manchester Royal Infirmary.

BRYETT, L. T. F., M.B Lond., L.R.C.P., M.R.C.S., D.P.H., has been appointed Medical Officer of Health for Shoreditch.

BULLEN, H. J. LYSAGHT, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator to the Third District of the New Forest Union, vice W. F. Giles, resigned.

BUNCLE, A., M.B., C.M. Edin., has been reappointed District Medical Officer of Health to the Featherstone Local Board.

BYERS, ALFRED, M.B., Ch.B.Vict., B.Sc.Lond., has been appointed House Physician to the Manchester Royal Infirmary.

DAVIDSON, J. MCKENZIE, M.B., C.M.Aberd., has been reappointed Ophthalmist Surgeon to the Aberdeen Hospital for Sick Children.

DAVIES, THOMAS, L.R.C.P., L.R.C.S. Edin., has been appointed Senior Assistant Medical Officer to the Whitechapel Infirmary.

DOUTY, EDWARD H., M.A., M.B., has been appointed Lecturer on Midwifery in the University of Cambridge.

EATON, J. W., L.R.C.P.Lond., M.R.C.S., has been reappointed Medical Officer of Health to the Bingham Rural Sanitary Authority.

EVANS, GEO., M.R.C.S., has been reappointed District Medical Officer of the Axminster Union.

FARR, E. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District and the Workhouse of the Andover Union.

FLETCHER, JOHN H., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Manchester Royal Infirmary.

GAYLOR, EDWARD, L.R.C.P., L.M.Edin., L.F.P.S.Glasg., has been reappointed Medical Officer of Health for Alfreton.

HALL, E. F., M.D. St. And., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Prescot Rural and Urban Sanitary Districts.

HICKEY, G. A., L.R.C.S., L.M.Irel., has been appointed Consulting Medical Officer for the Borough of New Ross, county Wexford.

HOOTON, W. A., L.R.C.P.Lond., M.R.C.S., has been appointed Honorary Dental Surgeon to the General Hospital for Sick Children, Pendlebury and Garside-street.

HUNTER, W. L., M.D., B.Ch.Dub., D.P.H.Eng., has been reappointed Medical Officer of Health, Pudsey.

LONGWORTHY, G. V., M.R.C.S., L.M., has been appointed District Medical Officer by the Kingsbridge Local Board.

MCDOUGALL, ALAN, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Manchester Royal Infirmary.

MACGREGOR, A., M.D., C.M.Aberd., has been reappointed Assistant Physician to the Aberdeen Hospital for Sick Children.

MACKAY, L. D., M.B., C.M.Edin., has been reappointed Medical Officer of Health for Knaresborough.

MCKERRON, R. G., M.B., C.M., D.P.H.Aberd., has been appointed Chloroformist to the Aberdeen Hospital for Sick Children.

MARSH, J. H., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Manchester Royal Infirmary.

MORGAN, OWEN W., L.R.C.S., L.R.C.P., L.M.Edin., L.F.P.S.Glas., has been appointed Visiting Surgeon to the Newport and Monmouthshire Infirmary for the Northern District of Newport, vice Hudson, resigned.

MORGAN, JOHN H., M.A., F.R.C.S., has been appointed Special Lecturer on Clinical Surgery at Charing-cross Hospital School.

NEWBY, THOS., M.D. St. And., M.R.C.S., has been reappointed Medical Officer of Health for Great Grimsby and Cleethorpes.

NEWTON, H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Teddington District of the Kingston Union, vice Cotes, resigned.

PATERSON, D. R., M.D.Edin., M.R.C.P. Lond., has been appointed Lecturer on Materia Medica and Pharmacy in the University College of South Wales and Monmouthshire.

PEARCE, ARTHUR, M.R.C.S., has been reappointed Medical Officer of Health for the Kingsbridge and Salcombe Port.

ROSE, GEORGE, M.B., C.M., D.P.H. Aberd., has been appointed Assistant Surgeon to the Aberdeen Hospital for Sick Children.

SMITH, T. G., M.D. T.C.Dub., F.R.C.P. Lond., M.R.C.S., has been appointed Physician to the London Hospital, vice Hughlings-Jackson, retired.

SOPER, R. W., M.R.C.S., has been appointed District Medical Officer by the Kingsbridge Local Board.

SPICER, N. W., M.R.C.S., has been reappointed Medical Officer for the Chard Sanitary District, Somerset.

STEVEN, W., M.B., C.M.Edin., has been appointed Deputy Medical Officer to the Featherstone Local Board.

THOMPSON, A. E., M.B., B.S., has been appointed Visiting Medical Assistant to the Newcastle-on-Tyne Dispensary.

WEBB, C. F., M.D. Durh., F.R.C.S., F.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for Basingstoke.

WESTMACOTT, F. H., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the Manchester Royal Infirmary Convalescent Hospital at Cheadle, vice J. E. Peatt, resigned.

WILKINSON, W. A., M.B., C.M., Ch.B.Vict., has been appointed House Surgeon to the Manchester Royal Infirmary.

Vacancies.

For further information regarding each vacancy references should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident Clinical Assistants for six months. Apartments, rations, and attendance provided. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £150 per annum (with an allowance for cab hire) and furnished rooms, fire, lights, and attendance.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer. Salaries £70 and £50 respectively, with board, washing, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with furnished apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, &c.

CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.—House Surgeon. Salary £70 per annum, with board and lodging in the house.

COUNTY OF NORTHUMBERLAND.—County Medical Officer for three years. Salary £500 per annum and travelling expenses. Applications to the Deputy Clerk of the Council, Mott Hall, Newcastle-on-Tyne.

DEVON AND EXETER HOSPITAL, Exeter.—Secretary and House Steward. Salary £200 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Physician. Board, lodging, and washing provided.

GUEST HOSPITAL, Dudley.—Resident Assistant House Surgeon for six months. Board, lodging, and washing provided.

HACKNEY UNION.—Dentist for their schools at Brentwood, Essex. Salary £100 per annum. Applications to the Clerk to the Guardians, Clerk's Offices, Hackney Union, Homerton, N.E.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, and Assistant House Surgeon for six months. The House Physician and House Surgeon will each receive a salary at the rate of £60 a year.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (ALBANY MEMORIAL), Queen-square, Bloomsbury, W.C.—Senior House Physician. Salary £100 per annum, with board and apartments.

PARISH OF WEST CALDER, Midlothian.—Medical Officer for the Parish. Salary £30. Applications to Mr. W. Millar, Inspector of Poor.

SHEFFIELD SCHOOL OF MEDICINE.—Tutor, to take charge of Dissecting-room and hold Classes in Anatomy and Physiology. Salary £124 per annum.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Board, washing, and lodging in the institution provided.

THETFORD UNION.—Medical Officer and Public Vaccinator for the Northwold District of the Union. Salary of Medical Officer £49 6s. 8d. per annum, exclusive of extra medical and vaccination fees. Applications to the Clerk to the Guardians, Guardians' Offices, Thetford.

UNIVERSITY COLLEGE, Bristol.—Faculty of Medicine. Medical Tutor. Stipend £125 per annum. Applications to Dr. E. M. Skerritt, Dean.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months. Board and lodging provided.

Births, Marriages and Deaths.

BIRTHS.

DANIELL.—On March 5th, at Croydon-road, Anerley, S.E., the wife of Henry P. Daniell, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

MYDDLETON-GAVEY.—On March 13th, at Lingwood, Weybridge, the wife of E. H. Myddleton-Gavey, M.R.C.S. Eng., of 94, Wimpole-street, W., of a daughter.

WILLIAMS.—On March 8th, at New Cross-road, New Cross-gate, S.E., the wife of Dr. J. Worthy Williams, of a daughter.

MARRIAGES.

DAVIS—CLARE.—On Jan. 4th, 1894, at the Superintendent Registrar's Office, and afterwards at the Chapel of St. Mary of the Blind, Liverpool, by the Rev. T. W. M. Lund, chaplain, William Davis, of the College, St. Bartholomew's Hospital, London, son of the late William Davis, of Russell-road, West Kensington, to Mary Rosina, daughter of A. S. Clare, St. James's Mount, Liverpool.

PYE-SMITH—FOULGER.—On March 7th, at Christ Church, Lancaster-gate, Philip Henry Pye Smith, M.D., F.R.S., of Brook-street, to Emily Gertrude, youngest daughter of the late Arthur Foulger, of Chigwell Row.

DEATHS

BIGGS.—On March 8th, at Egmont, Dulwich-wood-park, James Strange Biggs, M.D., M.R.C.P.Lond., M.R.C.S., L.S.A., aged 66 years.

BURNS.—On March 10th, at Borstall-villas, Rochester, John James Douglas Burns, R.N., M.D., M.R.C.P., J.P., &c., aged 78 years.

DAVIES.—On Friday, March 9th, at Abercerl, Newcastle-Emlyn, South Wales, David Davies, J.P., M.R.C.S., aged 72, late Medical Officer of Health for the City and Port of Bristol.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 15th, 1894.

	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Mar. 9	29·64	S.W.	46	45	64	51	40	0·16	Overcast
,, 10	29·66	S.W.	47	45	78	56	45	0·06	Cloudy
,, 11	29·61	S.W.	51	49	80	56	46	—	Cloudy
,, 12	29·67	W.	44	41	79	51	41	..	Raining
,, 13	29·17	N.W.	44	43	89	50	43	0·26	Cloudy
,, 14	29·54	W.	40	39	92	54	39	0·04	Fine
,, 15	29·37	N.E.	42	41	64	45	41	0·29	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

"A HOLIDAY TRIP TO GRINDELWALD."

In reply to several correspondents who have asked for further particulars regarding the holiday in Switzerland mentioned in an annotation under the above heading in THE LANCET of the 3rd inst., either Dr. Lunn, of 5, Endsleigh-gardens, or the Editor of *The Young Man*, Fleet-street, would supply them with the information they require.

H. A. B. should apply to the companies whose ships are engaged in that trade.

THE LATE MR. SPROSTON.

To the Editors of THE LANCET.

SIRS,—The statement that Mr. W. H. Sproston "came to Birmingham when quite a youth to study under his friend Dr. Heslop," as stated in the obituary notice of THE LANCET of to-day's date, is incorrect. If Dr. Heslop were alive he would be sixty-eight years of age, or five years younger than Mr. Sproston, and he did not come to Birmingham until 1850, six years after Mr. Sproston is said to have come here. The two men were great friends and had, I always understood, been fellow apprentices to Mr. William Underhill of Tipton.

I am, Sirs, yours faithfully,

March 10th, 1894. A FRIEND OF BOTH.

CHRONIC CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly help me with any suggestion as to the treatment of chronic constipation in a little girl aged ten years? The trouble has been for years. She is well nourished, with a good appetite, and suffers from no other complaint. I have tried dieting and many drugs—viz., sulphate of magnesia, calomel, aloes, sulphur, and cascara sagrada, also aloes, iron, and nux vomica in pill. Simple enema is the only remedy after many days, or else a glycerine enema.

I am, Sirs, yours truly,

March 12th, 1894. M.R.C.S. & L.R.C.P. LOND.

ATTENDANCE ON MEDICAL MEN.

Inquirens.—Under the circumstances mentioned in his communicatio we do not consider that there is any impropriety in our correspondent charging the particular fees. The rule of not charging is a good one in ordinary circumstances; but in such a case as the present it is the practitioner who *attends* that ought to be considered by all parties concerned in the ample estate left.

R. T.—"Vaccination Vindicated," by J. C. McVail, M.D. (Cassell and Co., 1887); "Vaccination and Small-pox in England and Other Countries," by E. J. Edwardes, M.D. (J. and A. Churchill, 1892). These two works cover the ground very well.

INFLUENZA: ITS ETIOLOGY AND TREATMENT.

To the Editors of THE LANCET.

SIRS,—There is no disease so widely diffused that has obtained more advocates for different modes of treatment than influenza—excepting, perhaps, cholera. The reason for this is not far to seek, resting, as it does, on an imperfect acquaintance with the fundamental principles which govern the physician's art, and until the ratio of the complaint is satisfactorily established so it will remain. But what is most remarkable is the dogmatism which prevails on this question. Some practitioners seem to endeavour to reduce the treatment to a Procrustean method, and by asserting the infallibility of a particular and exclusive plan they would formulate a cure. Nothing is more deplorable. In THE LANCET I occasionally see specific modes of treatment recommended, which, if not actually empirical, are open to the objection that they are exclusive. One writer boasts of the alkaline treatment, and in order to exalt this casts an undeserved slur on other methods which experience has endorsed as efficacious. It should be borne in mind that the disease we term "influenza" is subject to run in alliance with other symptoms, of which the most frequent are those of pulmonary disorders, rheumatic arthritis, neuralgia, and cardiac failure. To submit all these to one line of treatment is obviously a mistake. Treated *per se*, influenza is beyond question most amenable to quinine. In hundreds of examples of the disease I have found this single remedy sufficient. There are, however, two forms of sequelæ which, so far as I know, have not been generally mentioned. The first is an almost entire loss of the sensation of taste and smell. In the forms that have come under my own observation it has been noticed by smokers of tobacco that they cannot discern the smell or flavour of the weed long after their recovery; the fumes of a full-flavoured and pungent cigar are quite lost, and tobacco can be smoked without the least distinction of its flavour. Other comestibles are imperfectly tasted, but saccharine and saline substance least so. The second is the occurrence of severe shocks of pain, mostly affecting the lateral and anterior cutaneous nerves of the abdomen. This complaint gives rise to distressing symptoms—considerable agony and loss of sleep; it appears, in my experience, generally about a month from the termination o the first attack. That influenza is essentially a neurotic disease can scarcely be objected to, but the precise seat of the nerve disturbance is difficult to substantiate. Minute dissection with the aid of the microscope may some day set this question at rest.

I am, Sirs, yours obediently,

J. HAWKES, M.D. St. And.

Yardley Hastings, Northampton, March 13th, 1894.

A UNIQUE FORM OF COMPOUND FRACTURE OF THE TIBIA AND FIBULA.

To the Editors of THE LANCET.

SIRS,—The recorded cases of fracture of the tibia and fibula by muscular action are few and indefinite; but the following case has the peculiarity of having been caused by a twist. A man aged forty-seven, height 6ft. 1½ in., was playing cricket, and in order to get out of the way of the ball, which was coming at his leg, gave a twist round and heard a snap. He did not fall down, but leant on his bat and called out that his leg was broken. It began to bleed, he was laid down on the grass, and the bat was secured to the injured leg. On admission to the infirmary it was found that he had sustained a compound fracture of the tibia and fibula, which was put up in the usual way. In three months' time he was able to do without any bandage, and is now walking about as usual. The patient is a very healthy man, and there is no ground for suspecting any constitutional disease. I should feel grateful if you would kindly record this case, as I think is one that will be of interest to surgeons generally.

I am Sirs, yours faithfully,

WILLIAM FAIRBANK,

March 13th, 1894. Hon. Surgeon to the Windsor Royal Infirmar

AN OPERATION FOR ECTOPIA VESICÆ.

To the Editors of THE LANCET.

SIRS,—I should feel obliged if any of the readers of THE LANCET would suggest a suitable operation for the following case, as none o the operations described in the text-books seem to be quite suitable. The patient is a male infant ten days old who has ectopion of the bladde At the umbilicus the cord spread out over a tumour the size of a walnut, at the lower border of which there is a projection in size and appearance like a cherry—part of the bladder. The pelvic girdle is intact, and the external genitals are normal. The child micturates with equal freedom by the opening in the abdomina wall and per urethram.

I am, Sirs, yours faithfully,

March, 1894. M.B., C.M.

PRACTITIONERS POSSESSING NO BRITISH QUALIFICATION.

A CORRESPONDENT, in a letter to us, suggests that it is time that the General Medical Council should bring pressure to bear on the Government with the view of amending the Medical Act to the extent of making it a penal offence for anyone to practise medicine or surgery without his or her name being placed on the Register. The writer regards it as monstrous that people should be allowed to blazon forth their capabilities in the public press of this country when they possess no British qualification to practise medicine.

Simplex.—Burnett: "Diseases of Throat, Nose, and Ear." Field: "Diseases of the Ear."

Mrs. E. E. Lloyd.—We are unable to supply our correspondent with the address.

"THE BICARBONATE OF POTASH TREATMENT OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—I desire to add my testimony in favour of Mr. Crerar's treatment of influenza. I did not adopt it until this last winter, but my experience, though short and limited, was thoroughly satisfactory and warrants me in recommending its adoption by the profession. No case treated by the bicarbonate of potash from the first developed serious complications or ended fatally; in fact, usually in three days all fever had gone. There was a relapse in one or two cases due entirely to the too early cessation of the medicine. On resuming it the relapse yielded in a day or two. I did not find thirty grains of the bicarbonate every three hours to be too depressing for an adult. This dose is easily borne. A little brandy or aromatic spirit of ammonia will counteract any depression which may follow its administration. The *rationale* of the treatment I do not understand, but I hope that ere long Mr. Crerar will give us some sound scientific reason for its marvellous effect. I can only hope that this method will become more widely known, in the interests of humanity and the profession.

I am Sirs, yours truly,

Melrose, N.B., March 12th, 1894. W. HALL CALVERT, M.D.Edin.

THE SODEN FUND.

To the Editors of THE LANCET.

SIRS,—During the past fortnight I have received the following subscriptions to the above fund:—

T. L. Brunton	£1	1	0	C. Marsh	£0	10	0
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I am, Sirs, yours faithfully,

3, Northampton-terrace, Swansea, March 13th, 1894. W. F. BROOK.

VENESECTION.

To the Editors of THE LANCET.

SIRS,—In these days when bloodletting is certainly not so frequently performed by medical men—and no doubt rightly so as formerly—I think it would be of great advantage if cases in which it is adopted with decided success were recorded for the advantage of strengthening medical opinion. Venesection would be objected to by many patients of a sensitive nature when the same effect might be attained by the operation of wet cupping—so simple, and performed out of sight of the patient. I have myself had a case of congestion of the lungs associated with heart degeneration in which about an ounce of blood removed by cupping gave immediate and permanent relief to urgent symptoms. I had previously applied a blister for several hours without inducing vesication until after the cupping. Then some vesication appeared and no doubt added to the permanency of the relief previously given. The patient, I may add, was a very plethoric woman of about fifty years of age. I am, Sirs, yours faithfully,

March 13th, 1894. CUPPER.

THE DESTRUCTION OF INFECTED CLOTHING.

To the Editors of THE LANCET.

SIRS,—Will you kindly advise me on the following point? A girl with small-pox is admitted to a private infectious hospital with the authority of the medical officer of health and is paid for by the sanitary authority. On her discharge the clothes she wore during her stay are destroyed by the hospital authorities. The girl's parents claim for the destroyed clothes from the owner of the hospital. Is he liable, or is the sanitary authority liable? I am, Sirs, yours truly,

Feb. 25th, 1894. SMALL-POX HOSPITAL.

*** Under the provisions of the Public Health Act, 1875, the sanitary authority is empowered to destroy infected articles and give compensation for the same. The compensation is entirely at the will and discretion of the authority.—ED. L.

HINTS TO TRAVELLERS.

A CORRESPONDENT writes:—"I have been in communication with Lady Burton with reference to a book entitled 'Hints to Travellers in the Tropics,' written by the late Dr. Leslie, who died some time ago out in the West Indies. Lady Burton directed me to you, saying that you may possibly know the address of the publishers, or, if not too much trouble, will you kindly insert a line in your inquiry column, with a view to ascertaining who the publishers are, as, although I tried hard on several occasions to get to know this, I regret to say I was unsuccessful in my endeavours? I may say that, having in view a journey to the West Indies and the north of South America, also part of Central America, I desire to obtain the above book. Do you know perhaps any other?"

*** "Hints to Travellers, Scientific and General," edited for the Council of the Royal Geographical Society and published by Stanford, Charing-cross, would possibly meet our correspondent's requirements. We are unable to state the name and address of the publishers of "Hints to Travellers in the Tropics."—ED. L.

WOUNDS OF THE PLEURÆ.

ERRATUM.—We regret that in our issue of March 10th, on p. 641, in Mr. R. C. Bartlett's letter on the above subject, owing to errors of the printer, the word "throat" at line 20 should have been *thorax*, and at line 43 the word *or* should have been printed instead of the phrase "as well as."

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Great Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Great Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-sq. (2 P.M.), North West London (2 P.M.)

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—SOCIETY OF MEDICAL OFFICERS OF HEALTH (20, Hanover-square).—8 P.M. Discussion on Death Certification and Registration. Speakers: Mr. F. W. Lowndes (Liverpool), Dr. E. Hill (Durham), Dr. Farquharson, M.P., and Mr. Noel Humphreys.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. F. J. Wethered: The Diagnosis of Diphtheria by Bacteriological Cultures.—Dr. C. H. Ralfe: Milk Diet in Albuminuria.

TUESDAY.—PATHOLOGICAL SOCIETY OF LONDON.—Mr. J. Hutchinson, jun.: Deformity of Shoulder Girdle.—Mr. Cecil Beadles: Histological Changes in the Breast associated with Carcinoma.—Dr. W. W. Ord and Mr. S. G. Shattock: Left Hemisphere from a case of Aphasia.—Mr. Charters Symonds: Epithelioma of Bladder involving the entire Urethra.—Mr. J. Bidwell and Dr. Abraham: Sections of Skin formed after Thiersch's Grafts.—Dr. Rolleston: Glandular Inflammation causing Stenosis of the Bronchi.

WEDNESDAY.—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-st., Cavendish-sq.).—8 P.M. Dr. S. W. Wheaton: On certain Affections of the Mucous Surfaces and their Relation to Diphtheria.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-sq., W.).—8 P.M. Mr. A. D. Michael: Notes on the Uropodinæ.

During the week marked copies of the following newspapers have been received:—*Middlesboro' Daily Gazette, Argyllshire Herald, Lytham Times, Cheshire County News, Sheffield Independent, Chard News, Irish Times, Ilfracombe Chronicle, Ashton-under-Lyne Reporter, Herne Bay Argus, Guernsey News, Derbyshire Courier, Swindon Advertiser, Sunderland Herald, Rotherham Advertiser, Salisbury Times, Halifax Courier, Mid-Devon Times, Montgomery Express, Wakefield Express, Berkshire Chronicle, Public Health, Margate and Ramsgate Gazette, Bristol Mercury, Limerick Reporter, North Devon Journal, Science Siftings, Sala's Journal, West Middlesex Advertiser, Local Government Journal, Surrey Advertiser, Birmingham Daily Post, Malton Gazette, Grimsby News, Wrexham Advertiser, Times of India, Sunday Times, Builder, Pioneer Mail, Architect, Isle of Wight Guardian, Western Mail, Essex County Chronicle, Guy's Hospital Gazette, Liverpool Courier, Kentish Chronicle, Lowestoft Weekly Press, Stratford-upon-Avon Herald, &c., &c.*

Communications, Letters &c. have been received from—

A.—Dr. J. Althaus, London; Mr. A. B. Atherton, Toronto; Messrs. Arthur and Co., London; A. D. L., Leeds.

B.—Dr. W. W. Baldwin, Florence; Mr. W. H. Bennett, London; Mr. Thos. Bond, London; Mr. C. Bader, London; Mr. H. Burton, Marple, Stourport; Mr. W. Berry, Wigan; Messrs. J. B. Barnes and Sons, London; Messrs. Blondeau et Cie., London; Messrs. Bramwell Bros., Liverpool; Birmingham Free Hospital for Children, Secretary of.

C.—Dr. J. J. Caldwell, Baltimore; Dr. W. Hall Calvert, Melrose; Prof. M. Charteris, Glasgow; Prof. Ramon y Cajal, London; Mr. J. R. Clements, Eastbourne; Mr. J. Cochrane, Lochgoilhead; Mr. J. F. Colohan, Athenry; Mr. J. E. Cornish, Manchester; Miss Chapman, London; Messrs. Crossley, Moir and Co., London; Messrs. Cassell and Co., London; Carnarvonshire and Anglesey Infirmary, Bangor, Secretary of; Cleaver's Universal Advertising Co., London, Manager of; Cupper; Comfort, London; Condyle.

D.—Dr. T. B. Dunn, Bournemouth; Dr. E. H. Douty, Cambs; Mr. Walter Dendy, Aylesbury; Mr. D. J. Davies, Bristol; Mr. A. W. Deeley, Blackpool; Devon and Exeter Hospital, Exeter, Secretary of; Dubitous; D. F. H., Droitwich.

E.—Mr. Willmott Evans, London; Eye and Ear Hospital, Cork, Secretary of.

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G.—Dr. W. Gratz, Munich; Dr. W. J. Gow, London; Mr. J. Gwyther, Bristol; Mr. Arthur Gibbins, Wigan; Mr. F. R. Gibbs, Maidenhead; Mr. F. Goodrich, Methwold; Messrs. E. Gould and Son, London; Messrs. R. W. Greef and Co., London; Guest Hospital, Dudley, Secretary of; Great Northern Central Hospital, Secretary of.

H.—Sir G. M. Humphry, Cambs; Dr. J. Holmes, Whitefield; Dr. J. Hawkes, Northampton; Dr. W. S. Hedley, Brighton; Mr. H. L. Hooper, Eccles; Mr. E. Haskett, Huddersfield; Mr. A. W. C. Herbert, Southwold; Mr E. H. Helby, Bovey Tracey; Mr. A. W. Harris, Southampton; Mr. J. Heywood, Manchester; Miss Hooper, London; H. A. B.

I.—Ings House Nurses' Cooperation London, Lady Superintendent of; Inquirens.

J.—Dr. R. Johnson, London; Dr. A. H. Jacob, Dublin; Mr. J. A. Jones, Port Talbot; J. H. H.

K.—Dr. James Kerr, Bradford; Dr. Walter Kidd, Blackheath; Mr. C. W. Kerrow, Wokington; Mr. F. H. Knagga, Huddersfield; Knighton Union, Clerk of.

L.—Mr. A. Lamm, Grantham; Mr. H. K. Lewis, London; Mr. Charles Lucas, Cambridge; Messrs. Lee and Nightingale, Liverpool; *Le Progrès Médical*, Paris, Editor of; London and Counties Medical Protection Society, Secretary of; L., London; Lewis, London; L. E. E., Winchfield.

M.—Dr. C. Müller, Rome; Dr. Donald MacAlister, Cambs; Mr. R. Mosse, London; Mrs. D. F. Murphy, Sante Elmo, U.S.A.; Messrs. E. and E. McHugh and Co., Belfast; Messrs. Maythorn and Son, Biggleswade; Medicus, London; Medicus, St. Helen's-place; M. C. W.

N.—Dr. J. H. Nicholl, Glasgow; Mr. J. H. Norman, London; Newcastle-on-Tyne Corporation, Medical Officer of Health of; Northumberland County Council, Clerk of; North of England Medical Agency, Secretary of.

O.—Dr. Bernard O'Connor, London; Mr. J. Lewis Owen, Llangefni.

P.—Dr. Louis C. Parker, London; Dr. Alexander Paterson, Stirling; Mr. H. H. Lloyd Patch, Ramsgate, Miss Pincoffs, Dunster; Price's Patent Candle Co., London, Managing Director of; P. P., London; Physician, London.

Q.—Mr. J. Quick, Torquay.

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S.—Dr. R. Saundby, Birmingham; Dr. A. T. Schofield, London; Mr. T. Smith, London; Mr. H. Sell, London; Messrs. S. Smith and Co., London; Mr Charles Savile, Clifton; Mr. George Stoker, London; Messrs. Street and Co., London; Messrs. Stubbs and Co., London; Messrs. Steel and Jones, London; Messrs. S. Smith and Co., London; *Staffordshire Chronicle*, Stafford, Manager of; Suffolk General Hospital, Bury St. Edmund's, Secretary of; Sheffield Medical School, Secretary of; Sanitas Co., London, Managing Director of; Surgeon, London; Sharp, London; Sanitas, London.

T.—Dr. John C. Thresh, Chelmsford; Dr. G. D. Turnbull, Upper Musquodoboit; Dr. Thomas Oliver, Newcastle-on-Tyne; Dr. W. A. Turner, London; Sir Chas. Tupper, London; *Therapeutic Gazette*, Philadelphia, Editor of.

U.—University College, Bristol, Dean of.

V.—Mr. J. W. Vickers, London.

W.—Dr. F. N. Windsor, Oldham; Dr. Arthur Whitelegge, Wakefield; Dr. R. Wood, Driffield; Mr. J. R. Whitaker, Edinburgh; Messrs. Wright, Dain and Co., Birmingham; Messrs. J. Watts and Son, Worcester; Messrs. Woodthorpe and Co., Portsmouth.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. W. Anderson, Ruthwell, N.B.; Mr. J. E. Appleton, The Lizard; Mr. H. Ainsworth, Alton; A. F. Q., London; Assistant, London; A. M., Birmingham; A. E. T., London; Absentee, London.

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E.—Dr. J. W. Edgar, Settle; Dr. J. H. Edwards, Bedford; Mr. H. M. Eames, Shipley; East Riding Asylum, Beverley, Clerk of; Energetic, London.

F.—F. G., London; F. G. T., London.

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I.—Invalid, London.

J.—Dr. C. S. Jeaffreson, Newcastle-on-Tyne; Mr. A. R. Joll, Bristol.

K.—K., London.

L.—Dr. W. M. Leslie, London; Mr. G. S. Leggatt, Hoo; Mr. J. L. Leckie, Pontypridd.

M.—Dr. J. Mullin, Cardiff; Mr. W. B. Moore, Stourbridge; M. J., Mere; M. A., Clifton; Medicus, London; Melton, London; Medicus, Bournemouth; Medicus, Pocklington; Medicus, Ealing Dean.

N.—National Sanatorium for Consumption, Bournemouth, Secretary of; Norfolk County Asylum, Thorpe, Clerk of.

O.—Dr. A. I. Owen, Southsea; Mr. A. B. C. Orchard, Bovey; Obligans, London; Onewing, London.

P.—Dr. P., Stockton-on-Tees; P.C., London.

R.—Messrs. R. J. Rouse and Co., London; R. M. O., London; R. M., London; R. B., London.

S.—Dr. Steedman, Stonehouse; Dr. W. H. Spencer, St. Leonard's-on-Sea; Dr. G. E. Shuttleworth, London; Dr. E. F. Syrett, London; Dr. G. C. Simmons, Paris; Mr. J. T. Sarll, London; Mr. C. F. Sutton, Holmes Chapel; Mr G. H. Snowden, Stoke-upon-Trent; Mr. B. Spiney, Carmarthen; Messrs. Squire and Sons, London; South Devon and East Cornwall, Hospital, Plymouth, House Steward of; Sunderland Infirmary, Secretary of; Staffs General Infirmary, Stafford, Secretary of; Senior, London; S. S., Great Bookham; Surgeon, Richmond, Yorks; Sincerity, London; Surgeon, Liverpool.

T.—Dr. G. M. E. Thorp, Stourport; Mr. A. Thompson, Boxford; Mr. J. Thin, Edinburgh.

U.—Mr. H. Urquhart, London.

V.—Vendor, London.

W.—Mr. W. Webb, London; Mr. A. J. Wheeler, Fakenham; Mr. T. R. Williams, Beaumaris; Mrs. E. Worboys, London; Weston-super-Mare Hospital, Secretary of; West Calder Parish, Midlothian, Inspector of.

X.—Xeno, London.

Y.—Yarra, London.

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